The SHIPPING WORLD

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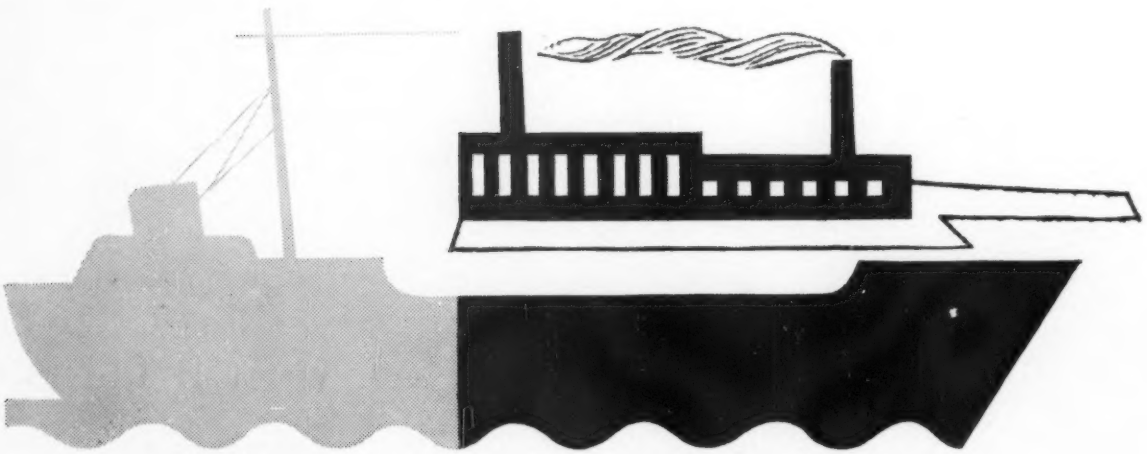

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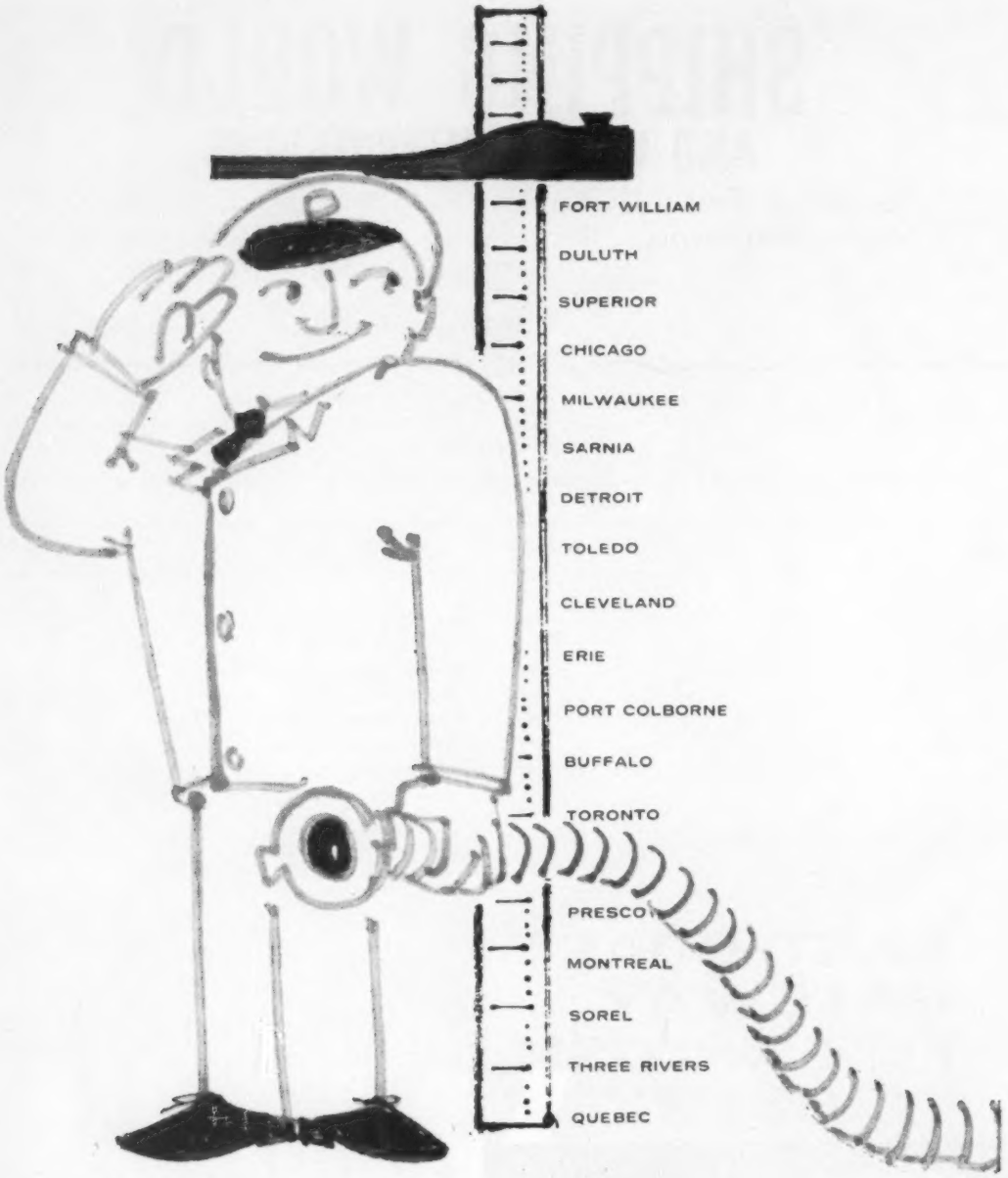

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THE SHIPPING WORLD

NUCLEAR POWER AT SEA

Later this month, an answer to a question in the House of Commons is likely to give the Government's reaction to the idea of building a nuclear merchant ship. If speculation in the Press proves correct, the decision may to be postpone further the building of a ship until additional shore-based research has been carried out, due to the fact that none of the alternative systems proposed proved sufficiently promising. If this is what is said, it will not prove popular in all quarters: advocates of building a merchant ship now include many people with ample experience to judge the question on its merits. It is fair to number among them Mr J. M. Murray and Mr H. N. Pemberton, respectively chief ship surveyor and chief engineer surveyor of Lloyd's Register of Shipping, whose paper (with the title "Lloyd's Register of Shipping Rules and Nuclear Ships") read in London last week makes it clear that they feel that the economics of nuclear ship operation cannot usefully be discussed further until experience with an actual ship allows the proving of the hypothetical assumptions on which economic calculations have inevitably so far been based.

But if all this is admitted, is a merchant ship necessarily the right vessel to build? It has been pointed out before in The Shipping World that as a source of power for merchant ships, the nuclear reactor has very real disadvantages coupled with advantages which may be forthcoming at some problematical future date. Compare this with the two types of propelling machinery which in the past half-century or so have made a real impact on merchant shipping—the steam turbine and the diesel engine. In each case there were immediate advantages to be gained, while the attendant disadvantages showed promise of vanishing as experience grew. Nuclear power brings with it two immediate advantages: independence of oxygen, and almost infinite endurance. The submarine benefits from both of these; the surface warship from one; the average merchant ship from neither.

If a ship is to be built now, why not pick one that can benefit from the use of nuclear power in its present state, instead of building what will in essence be a liability? Another event of the past week has been the debate in the House of Commons on the Navy Estimates, in which the Civil Lord of the Admiralty stated that the next generation of aircraft carriers would be required in about 10 years' time. This is too far ahead to make a nuclear aircraft carrier the next objective (although it must be hoped that the next aircraft carrier will in fact be nuclear-powered), but there may well be other ships to be built sooner. At any rate an experimental nuclear warship of some sort, to be followed by a nuclear aircraft carrier, is a programme that makes sense.

Advocates of nuclear-powered merchant ships often quote the Russian *Lenin* and the American *Savannah* as examples which we should follow. They forget that the *Lenin* was planned for a service where unlimited endurance is a most important asset, and that while the Americans planned the *Savannah* as a political gesture, they have also planned a whole generation of nuclear-powered warships which will soon make the Royal Navy obsolete. By all means let us choose to develop a type of nuclear reactor for marine purposes which gives the best promise of economic operation: this is common sense for the Admiralty just as much as for the shipowner. But let us begin with ships that can benefit immediately from what nuclear power has to offer.

Current Events

End of U.S. Intercoastal Shipping

In a dramatic announcement on February 20 the Luckenbach Steamship Co apparently brought an end to regular water transportation between the Atlantic and Pacific coasts of the United States. Edgar F. Luckenbach, Jr, president of the 110-years-old concern, said that the March 13 sailing of the *Lena Luckenbach* from Brooklyn and the March 22 departure of the *Marine Snapper* from San Francisco would conclude his company's operations in the intercoastal trade, where it is already the last survivor. "We were truly driven out of this trade," Mr Luckenbach said, "by actions of the Interstate Commerce Commission favouring the railroads and by lack of action of the Federal Maritime Board." The latter reference was to Luckenbach's pending application for Board approval of "Title XI" mortgage insurance on the construction of five container ships to replace its present break-bulk vessels. A decision on this application, and on a competing application of the American-Hawaiian Steamship Co for mortgage insurance on three larger container ships, had been expected by February 15. Mr Luckenbach said that his company, which lost over $2,000,000 last year and is now losing an estimated $200,000 per month, could delay suspension of its service no longer. Neither line has withdrawn its application, but it is indicated that even a favourable decision will not ensure Luckenbach's resumption of service.

Hudson Bay Premiums

THE Institute of London Underwriters has announced changes in the scales of additional premiums for voyages to the Hudson Bay area and Greenland. Certain small amendments have been made to the schedule of rates for direct voyages to Churchill, which now appears as a section on its own. Voyages to Ungava Bay, Diana Bay and Resolution Island are now rated under a separate schedule and other parts of Hudson Bay not north of 65 deg. N. latitude and Hudson Strait are dealt with under a special schedule. In the Churchill schedule the requirements which are to be observed by vessels entering Hudson Straits or waters west of Cape Chidley between July 23 and August 9 have been amplified to read—

Vessels intending to proceed into Hudson Strait between July 23 and August 9 inclusive must, immediately before sailing west of Cape Chidley, request the Ice Information Officer at Churchill or the Canadian Government patrol ship to supply information regarding weather and ice on the proposed route and must take into account any recommendations as to route received in replies. Vessels are not to proceed if any reply advises that it is unsafe to do so.

This amendment has been included in all the other schedules for this area. Outside the direct route to Churchill a number of new scales for additional premiums have now been introduced and it is advisable for any owners who are contemplating what may perhaps be unusual charters in this area to consult their insurance brokers. Hitherto the standard published scales applied to all insurance conditions except where the conditions provided for an excess greater than 3 per cent of the value in respect of all claims. This provision has now been changed to be more in line with modern values, and in a number of cases the scales for additional premiums quote alternative rates for the owner who may feel disposed to bear some portion of the damage himself or come to an arrangement with the charterers.

BEA to Oppose "Independents"

A STRAIGHT declaration that British European Airways will oppose the licensing of private airlines to fly alongside BEA has been given by Lord Douglas of Kirtleside, chairman of BEA. Writing in the current edition of the *BEA Magazine* he stated: "Two of the largest of Britain's private airlines (British United Airways and Cunard-Eagle) have applied to the new Air Transport Licensing Board for permission to operate certain routes at present reserved for BEA. The two airlines concerned have applied for the right to operate services in parallel with BEA on more than 40 routes on our network. Lord Douglas continued: "We shall be opposing these applications when they come up before the Board. Air transport is already one of the most competitive of industries and I do not believe that the addition of further operators on routes where there is already a lot of competition would be of lasting benefit to the travelling public. It would certainly not increase the United Kingdom's share of traffic on international routes, because foreign governments will insist on retaining their present share of the traffic." Lord Douglas's statement leaves no room for doubt that the new Licensing Board will have a difficult decision to make.

Unseaworthy Through Incompetence

A CHARTER dispute of some interest was recently before Mr Justice Salmon in the Queen's Bench Division. The vessel concerned was chartered for 24 months, her first voyage from Liverpool to Osaka resulting in the vessel being 8½ weeks at sea and off hire for five weeks, followed by a further 15 weeks of repairs after arrival at Osaka. The charterers repudiated the charter on the ground that the vessel was unseaworthy by reason of inefficient machinery and/or ill maintained machinery, and that the engineroom staff was both inadequate and incompetent. While the Court found that the vessel was not unseaworthy at the start of the charter by reason of the condition of her machinery, she was found to be unseaworthy by reason of the incompetence and inadequacy of the engineroom staff. It was held, however, that this was not sufficient ground for the repudiation of the charter, and that the charterers could not succeed unless they showed that it was likely that the delay necessary to make the vessel seaworthy was so unreasonable as to frustrate the commercial purposes of the charter. The Court pointed out that unseaworthiness was not a condition precedent in a voyage charter, and there was no authority for saying that it was in the case of a time charter. It was held that the charterers had no legal right to repudiate the contract, in that the charterparty was not frustrated. (*Hong Kong Fir Shipping Co Ltd* v *Kawasaki Kisen Kaisha Ltd.*)

The "Wasa" Salvage

JUST over 300 years ago, in 1628, the latest ship of the Swedish Navy set forth on her first brief voyage in Stockholm harbour. In a light breeze full sail was hoisted, and the *Wasa* heeled over and sank with loss of many lives, of much prestige and of a badly needed fighting vessel—for Sweden was at war with Poland. Her designer was gaoled for a time, and so was her luckless master. The kudos which was lost then has been regained in the mid-20th century through one of the most fascinating salvage operations in history. For the intervening time the hull has lain largely buried in mud. Five years ago the wreck was rediscovered, and work began on a project to recover intact the *Wasa* with some 20,000 cu ft of "untouched 17th century" on board. In charge from the beginning has been Commodore E. Clason, and he was in London last week to describe to the Press the various stages of the operations and to answer the technical queries of salvage experts. The ravages of sea and time have been comparatively slight, and it is judged that the oak timbers have as much as 60 per cent of their original tensile strength. One of the hazards from which the vessel has suffered was revealed when no less than 28 ship's anchors of different ages were found among the upper works. The *Wasa* has been moved in many stages to shallower water by means of slings and pontoons, and present operations are concerned with reinforcing the hull to resist the strain of final lifting and making the hull watertight so that it can be made buoyant when it breaks surface next April. The vessel will be moved to dry dock and placed in a specially designed pontoon building 186ft long by 66ft wide and about 66ft high, roofed and insulated, with provision for temperature and humidity control to prevent damage to the timbers from drying too quickly. In June the whole structure with the *Wasa* on board will be moved to a temporary exhibition site at Djurgarden. Whether the docking of the hull will shed any new light on the riddle of the *Wasa's* instability remains to be seen. Rule of thumb rather than mathematical precision was the order of those days, but it is known that her length/breadth ratio was higher than normal.

New Fan Aero-Engine

WHEN a well-known aero-engine manufacturing company which provides 50 per cent of the power plants used by the Royal Air Force and 2,300 engines fitted to nearly 1,000 civil aircraft operated by more than 80 airlines announces a new engine, a good deal of interest is aroused. The Bristol Siddeley BS.75 is the earliest off-

spring of the union in 1958 between Armstrong Siddeley Motors and Bristol Aero Engines, and is the first high by-pass ratio fan engine in the world to be designed as such from the start. Fan engines with high by-pass ratios have been produced in the United States (the Pratt & Whitney JT3D, for instance) by modifying existing turbojets, while in Britain new engines with low and medium by-pass ratios have been built and used successfully. But the BS.75 and the lift-thrust BS.53 are the first entirely new designs which exploit the by-pass principle to the limits set by current knowledge. The basic design of the BS.75—a ducted fan with high by-pass ratio of 1.75:1 and a thrust of 7,000 to 8,000 lb was finalised in 1959. Bench testing will begin next January and flight testing twelve months later. Basic type-testing will take place at the end of 1963, followed by full certification in early 1964. This is ahead of the schedules planned for the first two aircraft in which the BS.75 is to be installed—the Avro 771 and British Aircraft Corporation 107. The by-pass or ducted fan engine combines many of the advantages of the turboprop or turbojet. For quietness, economy and take-off performance, the turboprop is unrivalled. The narrow, high velocity efflux of the turbojet is a more efficient means of propulsion at high speed, but is inefficient and uneconomical at low speed. Moreover, the noise of the jet cannot be greatly reduced without prohibitive loss of efficiency. It is claimed that, compared with a turbojet of comparable size, the BS.75 will give 25 per cent more takeoff thrust, a 50 per cent decrease in noise level and a 15 per cent improvement in specific fuel combustion.

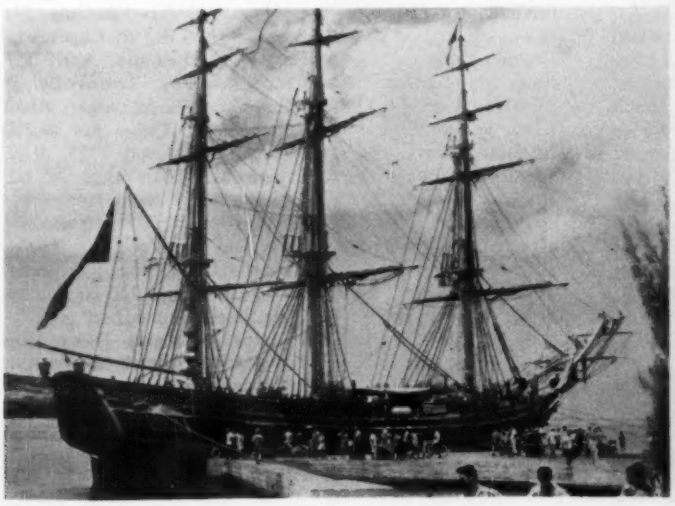
New "Bounty" Built for Film

THE accompanying pictures show a full-scale replica of Captain Bligh's *Bounty*, built specially for a new Metro Goldwyn Mayer film version of *Mutiny on the Bounty*, which arrived recently in Papeete, Tahiti, where the picture is on location. The vessel sailed via Panama from Lunenburg, Nova Scotia, where it was built at a cost of over $600,000. The 8,000-miles voyage took 39 days, manned by Canadian officers and crew. The three-masted square-rigged vessel was built by Smith & Rhuland, of Lunenburg, and 120 men, including 80 carpenters, were fully occupied for seven months on the work. Like its predecessor, the new *Bounty* is built mainly of oak. A total of 400,000 board feet of timber was used, and there are 3,949 board feet in the mainmast alone. The ship has a length of 108ft, a breadth of 30ft 6in and draught of 12ft. Ten thousand square feet of canvas was used for the sails, and the rigging includes ten miles of rope, 1½ miles of wire rope, 192 double and single rigging blocks, 188 "dead eyes", or turn buckles, and 304 belaying pins. There also are a duplicate of a small cutter in which Captain Bligh and loyal members of his crew were set adrift, and a full armament of cannon. Below decks, however, the vessel reverts to the 20th century. Twin diesel engines, each of 220 bhp, give her a speed of 8 knots without any help from the sails. Under both power and sails, she can do up to about 13 knots. In addition to the usual electric light and power, extra generators have been installed for supplying floodlights and cameras. The accommodation is also air conditioned, and there are refrigerators, deep freeze and other amenities. A sound system using over 500 microphones of all types is employed to capture the sounds of the ship at sea. The Australian Government is reported to have expressed interest in the possible purchase of the vessel as a memento of Captain Bligh's term as governor of New South Wales, following the mutiny.

Objections to Clyde Bridge

THE Clyde Navigation Trust is to proceed with its objections to Glasgow Corporation's inner ring road plan, which involves a bridge over the river at Shearer Street and Clyde Ferry Street. This would have the effect of putting about one half-mile of the Clyde out of use, so far as major shipping activity was concerned. Provided that the arches of the new bridge were high enough, small coasters could penetrate to the area which would lie east of the new bridge. Negotiations have been proceeding for some time to secure agreement on the height of the arches, on the extent of compensation payable and on the methods to be adopted to keep the channel free for navigation. No agreement has been reached and at the public inquiry which will be held on March 27 the Trust will be among the objectors to the plan.

Details of this replica of Bligh's "Bounty", built for a new film, are given above



ON THE "BALTIC"

A NOTICEABLE LACK OF INQUIRY

By BALTRADER

Shipowners, while feeling that a rise in freights may come at any time, have been discouraged in the past week by lack of active inquiry. The supply of tonnage still available in the Pacific area is certainly not excessive but, apart from continued interest on the part of the Chinese charterers, there has been little employment offering in that vast region. For Chinese account there has been inquiry for loading grain both in Australia and British Columbia for China, or for time charter tonnage probably with the same object in view, but from both these countries inquiry is small for discharge in Europe. In fact, the Australian Wheat Board is fully occupied in loading the large number of vessels fixed for homeward destinations and China. Early last week a 20,000-tons tanker was chartered by the Baltic Exchange Chartering Committee for the Indian Government from the North Pacific to Bombay at 62s 6d for wheat in bulk, a rate 10s below what was paid the week before for a normal tramp vessel to a range of Indian ports not suitable for discharging tankers.

Until the last few weeks one of the strongest markets has been the River Plate, owing to Japan's heavy demand for pollards and maize. The position has since been rather different and more than a dozen ships approaching readiness have appeared to be *de trop*, at any rate for the time being. They will be arriving with coal from Poland or Hampton Roads, grain from the Gulf to Brazil, and general cargo from the Continent, and if suitable River Plate business is not offering some may go away to load ore in Brazil or even go to South Africa for cargo. There is still inquiry from the Plate to Japan with more to come in succeeding months, but the export of wheat is now prohibited; however, there is expected to be good employment a little later from the movement of the plentiful supply of new maize, from April or May onwards. It is probable that the supply of tonnage in the Argentine will then once more be on the short side.

Little Trans-Atlantic Business

In the trans-Atlantic market not much business has been arranged, partly at least because owners are not interested in what has been offered. There does not appear to be much surplus of tonnage showing up on either side of the Atlantic, and the Chinese charterers had to put up their rate a little to secure a ship last week for fertilisers from the near Continent to China. The trans-Atlantic market generally offers a very modest return because of the ever present influence of the large tanker, not to mention the space available in the numerous North Atlantic liners, but the trade from the U.S. Atlantic or Gulf to the Far East is subject to different considerations. An owner who decides to send his vessel in ballast from Europe across the Atlantic for a voyage to Japan is casting his bread upon the waters; he can only hope that the following employment from, say, China, Australia or the North Pacific will not disappoint him. At present, for instance, the Pacific area, including Australia, has little inquiry apart from possibilities of business with China. Owners are therefore not rushing to fix out to that area, although less than the recently improved rate from the Gulf to Japan has been accepted.

One sees quite a few orders quoting for maize and for ore from South Africa to Europe and the Far East. An improved rate was paid last week for maize from East London to Glasgow: that market should be worth watching. It is a little off the beaten track for tramp shipping and generally has to attract tonnage from other markets such as the United Kingdom, India and South America. Owners would be pleased to see some competition between South Africa and West Australia, because the Australian Wheat Board is bent on depressing the homeward rate.

The method of discharging tankers in Bombay is to employ "vacuvators" which belong to the port authorities. These vacuvators are portable grain discharging machines either belonging to the ship or to the port, and they are likely to come more and more into use. As in the case of Bombay, some Italian ports also have invested in vacuvators to supplement their grain elevator equipment. There may be many port authorities who will buy vacuvators because their facilities for discharging bulk grain are insufficient or non-existent except by the slow and expensive use of tubs or baskets.

The Freight Markets

Freight markets in general have been quiet and uninteresting with nothing definite to indicate which way the cat will jump. Several fixtures were arranged from the St Lawrence homewards and a little more business was arranged from the River Plate to Japan for loading between late April and June/July. From the Gulf to Japan $9.90 was accepted for heavy grain.

Fixtures include:—*Astoria*, Baie Comeau to picked port United Kingdom, 36s, heavy grain, March 20/April 5; vessel, St Lawrence/London, 34s 9d free discharge, heavy grain, April 15/27; Saguenay vessel, St Lawrence/picked port United Kingdom, 47s 9d, heavy grain, April 10/25; *Maria Hadjipatera*, Gulf to Japan, $9.90, heavy grain, March 25/April 10; *Sunek*, Gulf to Antwerp, Rotterdam or Amsterdam, $4.75, heavy grain, March 23/April 10; *Mortain*, Gulf to Brazil, $8.10, March 25/April 10; two vessels, Cuba to Black Sea, 60s, April/May and May/June; *Ninny Figari*, 6,700 tons, 90 cu ft grain guaranteed, up River Plate to Moji-Tokyo range, 127s 6d, charterers option, 9,500 tons heavy grain, 91s 3d, with Clause 6 limited to 2,500 tons light cargo, April 24/May 10; *Alexandros*, 9,500 tons, 54 cu ft grain guaranteed, up River to Japan, 91s 9d, Clause 6 limited to 2,500 tons bagged cargo, May 3/27; Goulandris vessel, 54 cu ft grain guaranteed, up River to Japan, 91s 6d, Clause 6 limited to 2,250 tons bagged cargo, June 20/July 31; *Loradore*, 10,000 tons, Newcastle (N.S.W.) to Capetown-Durban range, 57s 6d, wheat in bulk ex-silo, April 25/May 20; *Tarseus*, 10,000 tons, Mackay, Townsville or Mourilyan, to the United Kingdom, 97s 6d, sugar, April 5/30; vessel, 9,500 tons, Rotterdam to China not North of Shanghai, 63s 6d, f.i.o., fertiliser, March 7/25; *Rigi*, 9,200 tons, Casablanca to Capetown-Durban range, 38s 6d, with other discharge options, March 28/April 10.

Time charters include: *Elbow River*, 9,160 dwt, 485,600 cu ft bale, 9 knots on 6½ diesel and 3 tons fuel oil, 20s 6d, delivery Colombo, trip to Japan via Mormugao or India, March 20/April 10; vessel, 12,800 dwt, 619,240 cu ft bale, 13½/14 knots on 16/17 tons intermediate fuel plus ½ ton disel oil, 22s delivery Saigon, redelivery Dakar, trip via Cape or Suez, April 25/May 10 (French charterers); *Hartismere*, 9,835 dwt, 549,000 cu ft bale, 12 knots on 13 tons fuel oil maximum 1,000 seconds, plus 1 ton diesel oil, 22s 6d, delivery on sailing from Tyne, redelivery United Kingdom, one trans-Atlantic round, February 27 (British charterers).

NEWS FROM OVERSEAS

From THE SHIPPING WORLD'S Own Correspondents

Mitsui Line Joins Conference

THE Mitsui Line is reported to have accepted conditions stipulated by the Japan-Homeward Freight Conference for its admission as a full member of the Conference, with effect from June 1. The action followed a recent meeting of conference member lines in London, at which the application of Mitsui for membership was said to have been discussed. For the last five years, Mitsui has been operating as an associate member under the wing of N.Y.K. It was granted this concession in 1956, under a truce that ended a 3-year-freight war, with the promise of a review of the terms at the end of five years. This period expires in June.

As a full member, Mitsui will be permitted to continue its present monthly eastbound and westbound services to Europe, and others it is operating between non-Japanese Far Eastern ports and Europe, the reports said. Cargo on eastbound Japan-Europe sailings will be restricted to 72,000 tons annually. Westbound sailings from Japan can include calls at Red Sea and Gulf ports. The European agents appointed by the Line must be approved by the Conference. The Mitsui Line will also be granted full membership in the Japan-Gulf of Aden and Red Sea Ports Conference, and associate membership of the Far Eastern Freight Conference and of the Philippine-Europe Freight Conference, it was stated.

Japanese Service with China

THE Toho Navigation Company and the Yamashita Steamship Company have re-assigned one vessel each to the Japan-China service, as a result of the resumption of private trade between the two nations. All Japanese shipping services to China were suspended about three years ago, when China cut off relations. The North China ports of Dairen and Tientsin were named as the ports to be visited by the re-assigned vessels. Meanwhile, an executive of the Nissho Steamship Company left for Peking for talks on the chartering of Japanese tonnage by China. Reports said that China has already chartered 44 ships totalling 500,000 tons on the London market for carrying grain imports to meet the famine crisis, and presumably any Japanese vessels chartered would be for the same purpose.

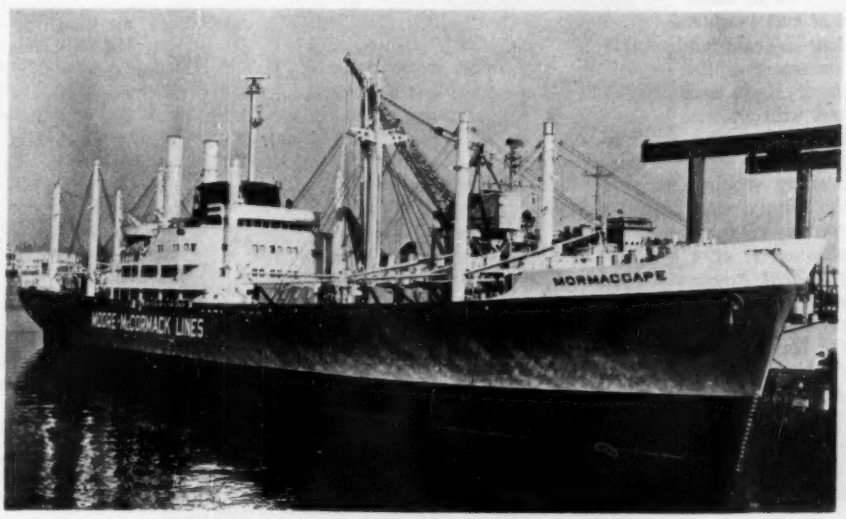
Iino Kaiun has announced the extension of its monthly Japan-East Canada-Great Lakes service to Chicago with the March sailing. It was stated that it will be the first Japanese line to extend to Chicago. Other ports of call of the service will include Milwaukee and Bay City. The *Muneshima Maru*, 12,093 dwt, is listed as the March vessel. The Mitsui Line is also reported ready to extend its Great Lakes service to Detroit, with its April vessel, the 11,673-dwt *Mayasan Maru*.

New Steel Crate for Cars

AB VOLVO, the Swedish automobile firm, has produced a new steel crate for the transport of cars which will replace the earlier wooden crates tried by the company. The new collapsible crate, requiring only a small space when folded, can be unfolded in less than one minute. Three to four cars are stacked on top of each other inside the crate by means of a fork-lift truck; the whole crate is then lowered into the hold. The new invention, patented by AB Volvo, has aroused great interest among shipowners who now see a chance to use bulk-carriers for the transport of cars. The Grängesberg Company undertook to put the crate on trial, and has used it for the carriage of cars in one of its new bulk carriers of 14,000 dwt to France and America. Some 175 cars have been shipped each time, although the vessel in question is able to carry 700-800 cars when fully loaded. Thanks to a long life, less repair and lower terminal costs it is estimated that the new crate saves about £8 per car.

Swedish Firm Coordinates Car Shipments

SCANDINAVIAN MOTORSHIPS AB, which was recently established at Stockholm as general agents for the Wallenius shipping companies, will serve chiefly to coordinate the transport of cars to and from the U.S.A. as well as other parts of the world. The Wallenius companies, operating since 1955 with vessels specially built for this work, are now busily engaged in the transport of exported German cars, about 10,000 cars per month being brought to North America by the vessels of the concern. The Wallenius fleet of car carriers comprises 12 vessels in addition to 10 chartered vessels, the aggregate tonnage amounting to 300,000 tons. Against the 100,000 cars annually trans-



NEW AMERICAN TONNAGE

The cargo-passenger liner "Mormaccape", 10,460 dwt, was delivered towards the end of last month to Moore-McCormack Lines Inc from the San Pedro shipyard of Todd Shipyards Corporation. Specially designed for use on the regular company routes this vessel and her sister ships are equally adaptable for use on the St Lawrence Seaway. The main machinery comprises a geared steam turbine which gives speed in excess of 18 knots. Accommodation has been provided for 12 passengers

ported to North America by the Wallenius companies only 7,000 to 8,000 are taken in the opposite direction. When the extra tweendecks have been removed the vessels are loaded with coal, grain etc instead. The special construction of these car-carrying vessels has meant a considerable increase of the capacity. The increased height of the vessels has been compensated by larger dimensions of the double bottom tanks in which oil or ballast water can be carried. The use of the recently-introduced steel crates for the carriage of cars has not been contemplated, as it has been possible to use the capacity of the vessels to the full due to the removable tweendecks which are a special feature.

Japanese Deliveries

INDONESIA'S growing merchant fleet gets a big boost with three dry-cargo vessels listed for delivery from Japanese yards during February under the reparations agreement between the two countries. The vessels are the *Gunung Guntur*, 5,600 dwt; *M. H. Thamrin*, 10,000 dwt; and *H. O. S. Tjokroaminoto*, 10,000 dwt. Each of the last two will have an 8,950-bhp diesel main engine, giving a service speed of 16.5 knots. Another 11,500-dwt 18-knots dry-cargo liner is also scheduled to be delivered by the Uraga Dock Company, to the National Development Corporation of the Philippines. This vessel has been named *Philippine President Roxas*. In addition the Scindia Steam Navigation Company has taken delivery of the 10,045-dwt dry-cargo vessel *Jalakirti* from Mitsubishi Heavy Industries Reorganised. A diesel main engine of 8,000 bhp gives the new Indian-flag carrier a service speed of 16.5 knots. Launchings scheduled in February for foreign owners included the 24,500-dwt bulk carriers *Skauborg* and *Skauholt*. The first of four ordered by A/S Skaugass of Norway from the Mitsubishi Shipbuilding & Engineering Co Ltd, the vessels will have 9,100-bhp diesel main engines giving trial speeds of 16.45 knots.

Among deliveries listed for domestic owners was the 5,000-hp suction dredger *Suez*, described as the largest dredger of the type built at a Japanese-operated yard. The vessel was built for Mizuno-Gumi, a civil engineering and construction firm, by the Aioi shipyard of Ishikawajima-Harima Heavy Industries.

Trans-Pacific Services

TRANS-PACIFIC cargo container service has prospectively been expanded with the purchase by American President Lines of 420 twenty-foot containers from the Fruehauf Trailer Co. The boxes will be used on four APL cargo ships, the converted Mariners *President Garfield* and *President Taylor* and the new 12,900-tons *President Lincoln* and *President Tyler*. Each will carry 80 containers at the start. The new ships, to be delivered shortly, have been designed with one container hold apiece and with another which can be easily converted to container use. The container hatch will be served by a 25-tons gantry crane. The same owners have placed their recently acquired passenger liner *Leilani* in the yard of the Puget Sound Bridge & Drydock Co at Seattle for conversion to a one-(first) class luxury accommodating 420 passengers, at a cost of $8,193,300. To be renamed *President Roosevelt*, she was originally the wartime P2-class trooper *Gen. W. P. Richardson*, later the Mediterranean-semi-austerity liner *LaGuaria*, and most recently the Hawaiian tourist class ship *Leilani*. She will serve in APL's trans-Pacific service with their *President Cleveland* and *President Wilson*, also designed as P2s but never completed as such.

RICE, KERR & COMPANY, steamship agents at Houston, Galveston and Dallas, Texas, has become a division of the Kerr Steamship Company, Inc.

RECENT SHIP SALES

TURBO-ELECTRIC tanker *San Silvestre* (10,953 grt, 6,164 nrt, built 1949 by Furness Shipbuilding Co Ltd) sold by Eagle Oil & Shipping Co Ltd, to Belgian shipbreakers for £14 per ton light displacement, with "as is" delivery River Blackwater.

Three motor tankers have been sold to Hong Kong shipbreakers by Shell Tankers Ltd. The *Desmoulea* (ex-*Empire Thane*, ex-*Desmoulea*, 8,120 grt, 4,788 nrt, built 1939 by Lithgows Ltd) the *Donacilla* (8,216 grt, 4,783 nrt, built 1939 by Blythswood Shipbuilding Co Ltd) and *Nayadis* (ex-*Empire Saturn*, 8,216 grt, 4,785 nrt, built 1944 by Harland & Wolff Ltd) have each realised £17 2s per ton light displacement, delivery Singapore.

Cargo steamer *Shun Fat* (ex-*Tangholm*, ex-*Troubadour*, 5,846 grt, 3,572 nrt, built 1920 by J. L. Thompson & Sons Ltd) sold by Kam Kee Navigation Co Ltd to Hong Kong shipbreakers.

Cargo steamer *San Jeronimo* (ex-*Yarra Breeze*, ex-*Goulburn*, 2,547 grt, 1,502 nrt, built 1915 by the Sunderland Shipbuilding Co Ltd) sold by San Jeronimo Steamship Co Ltd (John Manners & Co Ltd), Panama, to Hong Kong shipbreakers, having been lying at Hong Kong since 6 December 1960.

Refrigerated motor vessel *Ice Princess* (1,910 dwt, 1,219 grt, 560 nrt, built Strasbourg 1957 by the Soc. des Chantiers & Ateliers Du Rhin) sold by Kyvik & Co A/S, Haugesund, to Chinese buyers for £205,000 with delivery Shanghai.

Refrigerated motorship *Zero* (ex-*Eskimo*, ex-*Bryher*, 680 dwt, 650 grt, 278 nrt, built 1943 by Cook Welton & Gemmell Ltd, converted from steam trawler 1953) sold by Johannes Ostensjo & Co A/S, Haugesund, to Chinese buyers for £90,000 with delivery Shanghai.

Cargo steamer *Mehmet* (ex-*Taskopru*, ex-*Irish Poplar*, ex-*Vassilios Destounis*, ex-*Northborough*, ex-*Ardenhall*, ex-*Bathampton*, ex-*Withernsea*, 3,434 grt, 2,045 nrt, built 1912 by Earle's Co Ltd) sold by Cerrahogullari Umini Ticaret T.A.O., Istanbul, to Yugoslav shipbreakers for £30,000 with March/April delivery.

Cargo steamer *Nurfan* (ex-*Malange*, ex-*Carlo Pisacane*, ex-*Algier*, ex-*Hornfels*, 3,155 grt, 2,393 nrt, built Rostock 1904 by A.G. Neptun) sold by Cerrahogullari Umini Ticaret T.A.O., Istanbul, to Yugoslav shipbreakers for £28,000.

Cargo steamer *The Duke* (820 grt, 387 nrt, built 1927 by the Ailsa Shipbuilding Co Ltd) sold by J. Hay & Sons Ltd, Glasgow, to BISCO.

Cargo steamer *Margareta* (ex-*Ursa*, ex-*Karin*, ex-*Johanne*, ex-*Johane Dybwad*, ex-*Nepos*, ex-*Arranmoor*, 2,870 grt, 1,660 nrt, built Sunderland 1904 by J. Blumer & Co) sold by Lovisa Sag & Tunnfabrik A/B, Lovisa, to Belgian shipbreakers.

Cargo steamer *Locarno* (ex-*Dunsley*, 3,897 grt, built Sunderland 1929 by J. L. Thompson & Sons Ltd) sold by Cia. de Nav. San Rocco S.A., Panama, to Italian shipbreakers.

Cargo steamer *Orestes* (2,696 grt, 1,561 nrt, built Rotterdam 1918 by Rijkee & Co) sold by Kon. Nederlandsche Stoomboot Mij. N.V. to Belgian shipbreakers.

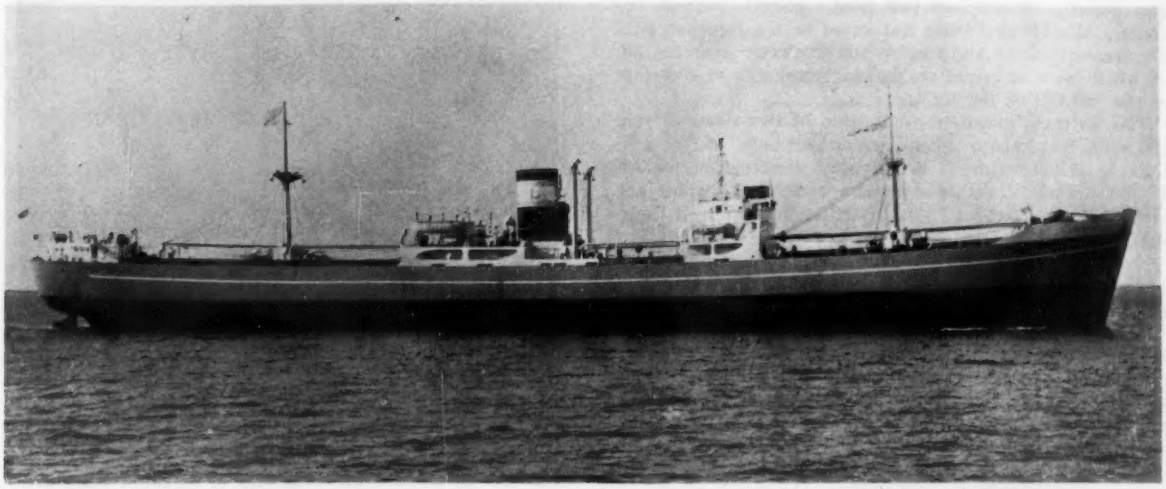
Motorship *Gerard L.D.* (9,313 dwt, 5,963 grt, 3,230 nrt, built 1953 by Ateliers & Chantiers de la Loire) sold by Louis Dreyfus & Cie to Bermudan buyers for £550,000 and to be renamed *Teneriffe*.

Motorship *Cordoba* (4,575 dwt, 3,784 grt, 2,101 nrt, built 1958 by Helsingborgs Varv) sold by Continental Shipping Corporation, Panama, to Aug. Bolten Wm. Miller's Nachfolger, Hamburg, for about $1 mn with delivery April.

Motor vessel *Welsh Prince* (9,970 dwt, 7,381 grt, 4,616 nrt, built 1944 by Wm. Doxford & Sons Ltd) sold by Furness Withy & Co Ltd to London Greek buyers for about £140,000 with U.K./Continent delivery July. Passed survey March 1958.

Cargo steamer *Murillo* (ex-*Tacona Star*, ex-*Empire Talisman*, 7,197 grt, 5,069 nrt, built 1944 by Lithgows Ltd) sold by Blue Star Line Ltd to Spanish shipbreakers for £62,500 with prompt delivery U.K.

Refrigerated steamer *Toltec* (ex-*Knud Rasmussen*, ex-*Toltec*, 5,399 grt, 3,086 nrt, built 1929 by Barclay, Curle & Co Ltd) sold by Empresa Hondurena de Vapores to Belgian shipbreakers with March delivery Belgium.



Conversion of the "Lucy"

CHANGE FROM STEAM TO DIESEL PROPULSION

A CARGO vessel with steam propelling machinery has been converted to diesel propulsion by William Gray & Co Ltd, West Hartlepool. This vessel, the *Lucy*, 12,350 dwt, was built by William Gray in 1957. She is owned by the Monrovia Shipping Co Ltd, Liberia (Economou & Co Ltd) and sails under the Greek flag. The contract for the conversion was obtained from N. G. Livanos during January 1960 on a fixed price and time basis, and the work was started on the ship's arrival at West Hartlepool on October 23; completion taking place last week when, after sea trials, the vessel sailed for Cuba. The *Lucy* is 457ft 3in in length overall, has a moulded breadth of 57ft 9in and a draught of 28ft 7in.

The original machinery was supplied and installed by the Central Marine Engine Works and consisted of a triple-expansion steam engine fitted with a Bauer-Wach exhaust steam turbine. The new machinery, a three-cylinder Gray-Doxford diesel engine, was also built in the company's engine works. There was little work necessary on the hull. The engineers' and PO's toilets had to be removed from the engine casing and accommodation for an additional engineer provided on the boat deck. A portion of the Bauer-Wach space which was no longer required in the engine room was added to No 4 hold.

The speed of the *Lucy* as a steamer was 12½ knots on a daily consumption of 30 tons of fuel (all purposes). Now that she has been fitted with diesel machinery her speed is about 12¾ knots and the fuel consumption, all purposes, has been reduced to about 14.27 tons per day. During sea trials after conversion the speed recorded was 13.127 at 114.5 rpm with the engine developing about 3,159 bhp. The apparent slip was 0.477 per cent.

Reasons for Conversion

It is assumed that first cost and simple machinery, together with reliability in service, were the primary considerations when steam machinery was ordered for this vessel. After a time it became apparent that if the *Lucy* was to compete with other ships, some other means of propulsion with a lower fuel consumption would have to be fitted, and a Gray-Doxford engine was chosen.

The original steam machinery was a triple-expansion engine with 24½in by 70in by 41in dia. cylinders by 48in stroke, working in conjunction with a Bauer-Wach exhaust steam turbine. The output was 3,700 ihp at 85 rpm. Two Babcock & Wilcox watertube boilers, each rated at 22,000 lb of steam per hour at normal output, were fitted, the working pressure being 215 lb/sq in with a final steam temperature of 600 deg F. Feed water entering the boilers was raised to 285 deg F by a two-stage feed heater.

In keeping with general practice the boilers were placed forward of the engine on a built-up seating, with the steam drums facing inboard. A horizontal tube air heater was placed at second deck level, and two Howden forced-draught fans were situated at upper deck level. Two main and one auxiliary feed pumps of Worthington-Simpson manufacture were fitted on the port side, together with CMEW auxiliaries consisting of drain and scum tanks, two-stage feed heater, gravitation filter, air discharger, HP feed filter, auxiliary condenser and two 25-tons evaporators. Two Caird & Rayner 25-tons/day capacity distillers were also fitted.

The lubricating oil system for the Bauer-Wach turbine

Steam engine and fittings lying on the quayside four days after work was started

and gearing consisted of two Weir's pumps, a Serck oil cooler, Alfa-Laval purifier and steam heater, together with the necessary tanks and suction and discharge strainers, all of which were arranged on the starboard side of the ship in the vicinity of the turbine.

The electrical installation consisted of two steam-driven 220-volts Sunderland Forge dynamos, each of 65 kW capacity, also a Ruston & Hornsby diesel generator of 35 kW. These together with the switchboard were arranged on the starboard side of the engine room at floor level.

Steam driven ballast and general service pumps of Lamont manufacture were fitted on the port side, also a Drysdale steam driven centrifugal circulating pump. A Weir design regenerative condenser of 4,500 sq ft cooling surface was arranged, to deal with the main engine exhaust steam. An engineers' store and workshop with lathe, drilling machine and grinder were arranged under the second deck on the starboard side.

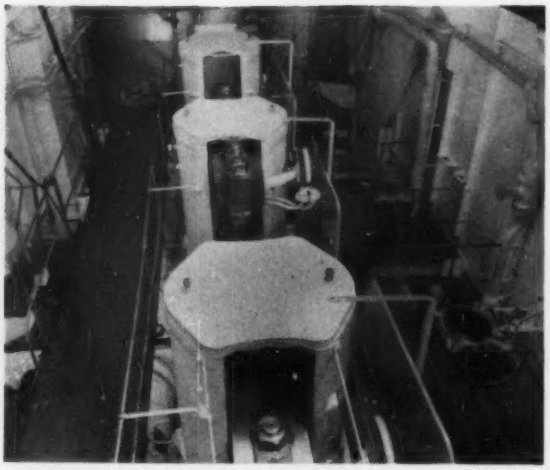
The New Machinery

The new main engine is a Gray-Doxford Type 67 LBD3 opposed-piston two-stroke oil engine having three cylinders each 670mm bore by 2,320mm combined stroke. It develops 3,300 bhp at 115 rpm continuously in service. In order to accommodate the new machinery, certain modifications to the engine room were necessary.

The tank top in way of the new engine has been strengthened and raised to give 5ft depth of tank. As the original Bauer-Wach recess was not required, a new bulkhead has been fitted at 69 frame. The original oil fuel cross bunkers at 88-92 frames have been retained, but built-in diesel oil bunkers are now provided in part of this space; an additional 25-tons diesel oil tank has been arranged at the end of the engine room.

The original side bunkers and gravity tank at 82-88 frames, also the seating for the original water tube boilers, have been removed. Lubricating oil and fuel oil drain tanks are provided under the main engine.

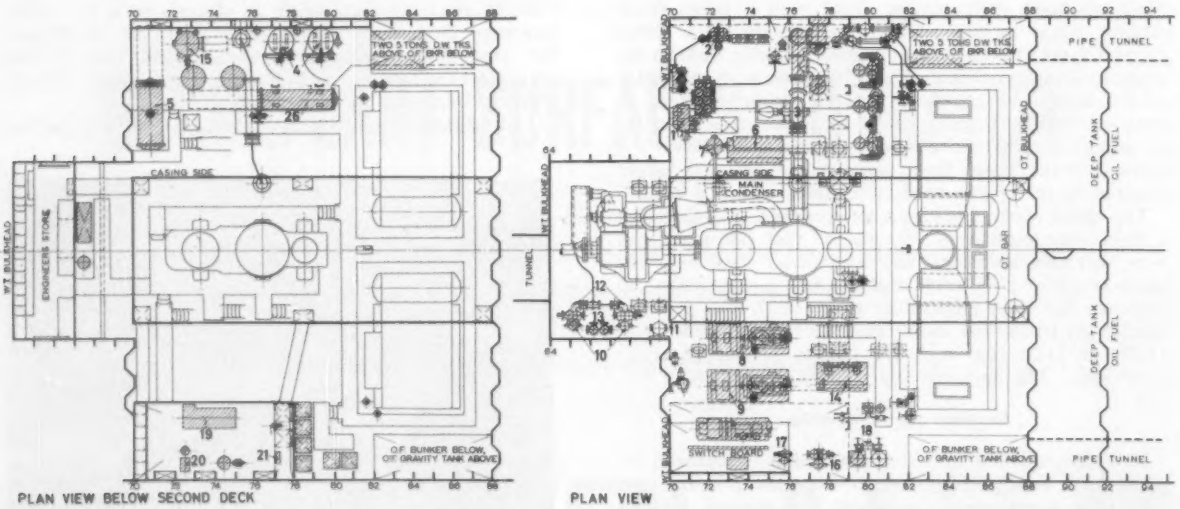
The new engine is fitted with one lever-driven scavenge pump and the pistons and jackets are arranged for cooling



View over top platform after installation of the Gray-Doxford three-cylinder diesel engine

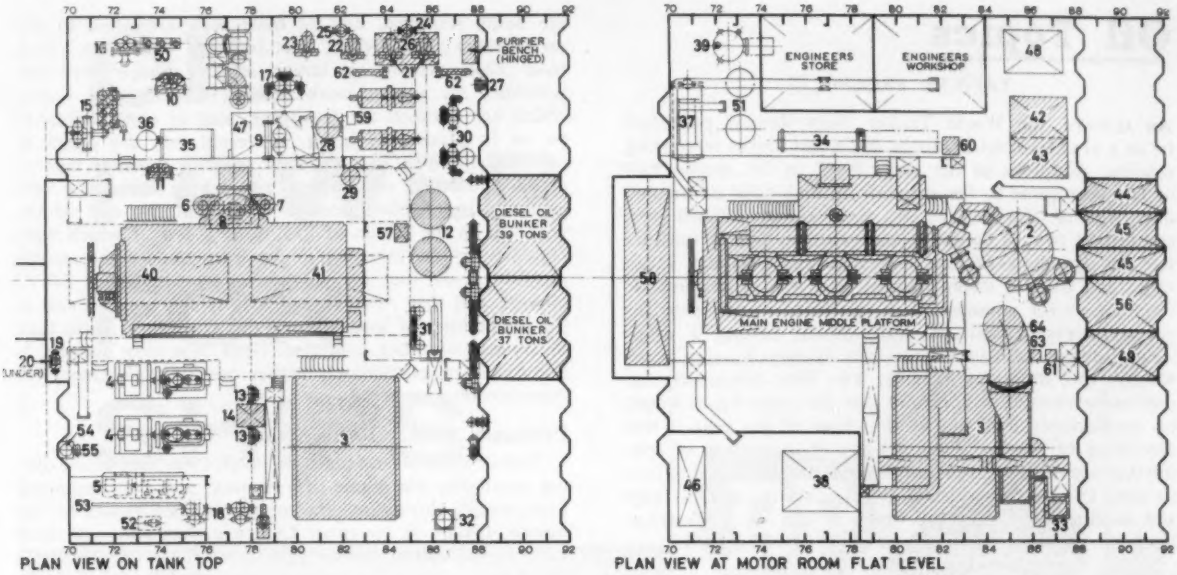
by distilled water. Engine-driven double-acting service pumps consisting of a forced-lubrication pump, sea water cooling pump, also jacket and piston distilled water pump are fitted and driven from the scavenge pump levers. Arrangements are made for the engine to operate on high viscosity fuel oil having a viscosity of 1,500 seconds Redwood No 1 at 100 deg F, but an alternative connection is provided for immediate switch-over to diesel fuel. A Viscotherm viscosity meter is interposed in the fuel line. The control gear is at the forward end of the engine.

To provide steam for port duty, a Scotch boiler 15ft 6in internal dia by 11ft 9in long having a working pressure of 120 lb/sq in is provided, and fitted on the starboard side of the ship together with the original B & W oil fuel unit, modified to suit the reduced requirements. The modification consisted of skimming out the pump ends of the two pumps and fitting cast iron pump liners com-



Machinery space of the "Lucy" before conversion. The items cross-hatched are those which were retained

1 Ballast pump
2 General service pump
3 Centrifugal circ. pump
4 Evaporators
5 Auxiliary condenser
6 Drain and scum tank
7 Gravitation filter
8 60-kW generator
9 60-kW generator
10 Lubricating oil pumps
11 Lubricating oil cooler
12 Lub. oil suction filters
13 Lub. oil discharge strainers
14 Duplex oil fuel unit
15 Oily water separator
16 Oil fuel transfer pumps
17 Oil fuel transfer pumps
18 Oil fuel separators
19 Lathe
20 Bench drilling machine
21 Bench grinding machine
22 Hydrophor pumps
23 Hydrophor tanks
24 Refrig. circ. pumps
25 Diesel generator
26 Feed heaters



Arrangement of the engine room of the "Lucy" after conversion. The items cross-hatched are those which were new

1 Gray-Doxford engine
2 Composite boiler
3 Scotch boiler
4 Steam-driven generators
5 Diesel generator
6 F.W. cooling pump
7 S.W. circulating pump
8 Bearing L.O. pump
9 Standby F.W. cooling pump
10 Standby S.W. circ. pump
11 Standby bearing L.O. pump
12 Starting air receivers
13 Fuel valve cooling pumps
14 Fuel valve cooling tank
15 Ballast pump
16 Bilge pump
17 Gen. service and fire pump
18 Oil fuel transfer pumps
19 Fuel oil priming pump
20 Fuel oil circ. pump
21 Heavy oil purifier
22 Diesel oil purifier
23 Lub. oil purifier
24 Heavy oil purifier heater
25 Lub. oil purifier heater
26 Sludge tank
27 Sludge pump
28 F.W. cooler
29 L.O. cooler
30 Boiler feed pumps
31 Scotch boiler O.F. unit
32 Oil fuel separator
33 Forced-draught fan
34 Feed water heater
35 Drain and scum tank
36 Gravitation feed filter
37 Auxiliary condenser
38 Soloshell evaporator
39 Oily water separator
40 D.B. lub. oil drain tank
41 D.B. fuel oil drain tank
42 Dirty L.O. tank
43 Clean L.O. tank
44 Dirty fuel oil tank
45 Clean fuel oil tanks
46 Generator fuel oil tank
47 Fresh water drain tank
48 Distilled water tank
49 Scotch boiler oil tank
50 Hydrophor pumps
51 Hydrophor tanks
52 Refrig. circ. pump
53 Switchboard
54 Generator air receiver
55 Gen. hand air compressor
56 Clean D.O. tank
57 Drinking water cooler
58 D.O. tank
59 H.P. feed filter
60 F.W. head tank for A/C's
61 Cochran boiler oil heater
62 Heat exchangers for A/C's
63 Cochran boiler oil filter
64 Cochran boiler hand pump

plete with new buckets and rings. The two pumps are now capable of delivering 125 gall/hour at 300 lb/sq in pressure with steam at 80 lb/sq in. Furnace fronts are of Swinney pressure jet design. One of the original CMEW oil fuel separators has been retained, and is located near the boiler. A Howden motor driven forced draught fan is installed. For oil fuel transfer duty, two Weir's steam-driven pumps are provided, one being from the original installation, the other being one of the original lubricating oil pumps.

A Cochran composite boiler 8ft dia by 18ft 6in high having a working pressure of 120 lb/sq in, arranged to utilise the heat in the exhaust gases and so provide steam when at sea, is located on a flat forward of the main engine. The oil fuel equipment for this boiler is of the Swinney low-pressure design. Arrangements are provided by means of a diverting valve for the engine exhaust gases to be bypassed through a silencer when required. The two existing Worthington Simpson feed pumps have been retained, and are located on the port side together with the existing drain and scum tank, gravitation filter and feed heater, all of CMEW manufacture. The Caird & Rayner high-pressure feed filter is also retained in the new arrangement.

For standby to the main engine service pumps, new steam-driven pumps of Lamont manufacture have been provided for sea water, fresh water and lubricating oil duties, and these are located on the port side of the engine room. A Serck lubricating oil cooler and a Serck fresh water cooler are arranged vertically near these pumps. The starting air system consists of two Hamworthy air compressors each of 125 cu ft/min capacity at 600 lb/sq in, together with two air receivers each of 125 cu ft capacity, these latter being placed vertically under the Cochran boiler flat. A low-pressure air system is also provided.

A Doxford priming pump, "Measurement" fuel oil circulating pump and two Lamont steam-driven fuel valve cooling pumps are arranged on the port side.

Oil purifying equipment consists of four Sharples machines, two for fuel oil, one for lubricating oil and one for diesel oil and these, together with the necessary heaters, also the sludge pump and sludge tank, are situated on the port side of the ship.

The original Thom, Lamont ballast pump and the bilge pump have been retained, and the original Worthington-Simpson harbour feed pump is now arranged for general service and fire duties, these pumps being arranged on the port side of the ship. The auxiliary condenser, Turbulo oily-water separator and hydrophor tanks are arranged on a flat at this position.

It was found possible to use the existing DC generators. These, consisting of two 65-kW 220-volts steam-driven Sunderland Forge generators, also one 35-kW Ruston & Hornsby diesel generator, together with the switchboard, have been retained in their original positions on the starboard side of the ship.

The existing funnel has been modified internally to suit the new arrangement of exhaust pipes and silencers, and stiffened when required. The existing ventilators and ventilator fans have also been retained and an additional fume fan for the purifiers has been arranged. A 6-tons electric travelling crane has been fitted about upper deck level for overhauling the main engine.

The original four-bladed propeller which was of 18ft 6in diameter and 16ft pitch has been replaced by a smaller one of 15ft 9in diameter and 11ft 8in pitch.

Oil Topics

TANKER PROSPECTS

As always, the World Tanker Fleet Review published twice a year by John I. Jacobs & Co Ltd makes interesting reading. Additions to the order book in the second half of last year come to the surprisingly high total of 890,000 dwt. Against this can be set removals of 370,000 dwt, comprising two oil company supertankers, two of medium size for Israeli ownership now established as dry cargo ships, and five for tramp owners. The new orders include four vessels for commercial oil companies and seven for government-controlled oil organisations having a deadweight tonnage of a little under 440,000 tons, leaving about 450,000 dwt of tramp tankers. The firm comments that until quite recently it appeared that the latter figure would be considerably less, but at the close of the year it was disturbing to observe distinct signs of a renewal of contracting activity for large ships on the part of Scandinavian owners. On the other hand Greek owners, with a large and modern fleet much of which is free on the market, have not joined in the move to place new contracts.

Yards Receiving Orders

Most of the new tanker contracts, the review states, have gone to Japanese and Swedish shipyards. In general, the backlog of existing work is being spread out over a longer period as a result of arrangements made between owners and builders. In some cases this involves deferring the commencement of construction and in others a protracted building time, usually in the later stages after launching. It is suggested that the best prospects for tanker orders are those of Japanese shipyards, partly because of their competitive ability and partly because of the enormous rate of growth of Japanese oil consumption which is expected in the next decade. The Japanese are of course short of foreign currency, and the review points out that unless huge sums of foreign currency are to be expended on chartering vessels of other flags, which would constitute a serious drain on the Japanese economy, it is foreseen that even to maintain the present proportion of about 60 per cent of oil imports carried in Japanese-flag tankers, a very substantial building programme will have to be undertaken. Other countries are less fortunately placed: in the probable absence of new orders, tanker construction in Italian and U.S. yards will almost cease by the end of this year. In Italy, seven of the 12 tankers to be built have already reached the launching stage, and in the United States three out of nine are on the point of delivery.

The T2 Tanker

The review surveys the commercial T2 fleet at the end of 1960, when it totalled 343 ships. This shows a reduction of 51 ships in the previous six months. The distribution of the fleet is as follows:

	Oil Company	*Tramp*	*Total*
Argentine	1	1	2
British	24	2	26
Canadian	3	—	3
Dutch	5	2	7
French	12	4	16
German	—	3	3
Greek	—	10	10
Italian	2	23	25
Japanese	1	—	1
Liberian	9	49	58
Norwegian	—	4	4
Panamian	21	13	34
Peruvian	1	—	1
Turkish	—	1	1
Uruguayan	2	—	2
U.S.	100	49	149
Venezuelan	1	—	1
	182	161	343

Of the 51 vessels removed from the list, 37 have been or are being scrapped, and 14 have been converted to dry cargo ships. The present fleet includes 40 vessels which have been rebuilt to larger sizes: another five are scheduled for similar work. It also includes eight vessels which are destined for scrapping, and 16 either about to be, or in process of being, converted into dry cargo or specialised ships. Of the present fleet, 71 are now laid up and five used as store ships, and taking everything into account the effective total in service at the end of the year was in the region of 255, quite a few of which were regularly or intermittently in the grain trade. Other points mentioned are that one oil company still retains 37 T2 tankers, and that American owners clearly attach more to the possibilities of long-term service from these ships than do owners of other countries. (This, one may assume, is due to the proportionately higher cost of replacement for American-flag owners.)

February Tanker Rates Steady

The single voyage black oil market was very active during practically the whole of February, and rates remained fairly steady throughout the month. In their report on the month, Davies & Newman Ltd state that although there were an increased number of trans-Atlantic fixtures, once again the majority of business concluded was out of the Persian Gulf, particularly to U.K.-Continent-Mediterranean. Rates paid in the latter trade were mainly in the range Scale minus 50/52½ per cent with the occasional vessel securing up to Scale minus 47½ per cent, and a couple of fixtures being concluded at Scale minus 53½ per cent. This business was principally for British account, and in addition American charterers paid a slight premium over the U.K.-Continent rate for the occasional vessel for discharge in Eastern areas. Japanese charterers were not particularly active, and paid rates ranging between U.S.M.C. minus 65 and 70 per cent for up to three consecutive voyages. Trans-Atlantic fixtures were once again mainly backhaul voyages for super-tankers engaged in the Persian Gulf/U.S.N.H. trade, and rates from Caribbeans to U.K.-Continent-Scandinavia were in the range of Scale minus 55/65 per cent, depending mainly on size, with a discount of 5 per cent for Mediterranean discharge. There was relatively little demand for clean tonnage, particularly trans-Atlantic, and the last fixture from Caribbeans to U.K.-Continent was concluded around the middle of the month at Scale minus 30 per cent.

There has been a further reduction in the laid-up total, mainly due to scrapping. The figure now stands at 193 vessels of about 2,968,000 tons deadweight, a decrease of 11 vessels of about 132,000 tons deadweight during the month. The present total is the lowest since February 1958.

Amendment to Scale Rates

Arising from various changes in port charges and other expenses at loading ports in the Persian Gulf, freight rates on the London market tanker nominal freight scale No 3 applicable from this area have again been reviewed, and it has been decided to make further revisions, effective on and after 25 February 1961. As a result of these revisions, Amendment No 1 dated 23 November 1959 is cancelled and the fixed differential for loading at Abadan is to be 4s 6d per ton and for loading at Fao 5s 6d per ton, in each case over and above the Persian Gulf North of Ras Tanura rate and payable only on the quantity of cargo on board the vessel on sailing from the port concerned. Two additional fixed differentials to be added to the basic rate in accordance with Paragraph 3 (A) of Scale No 3 are to apply as follows: (a) 1s per ton extra on the full cargo if vessel loads at Bandar Mashur; (b) 1s 3d per ton extra on the full cargo if vessel loads at Umm Said.

Air Cargo—What Next?

A REVIEW OF THE PRESENT POSITION

By D. M. Brace

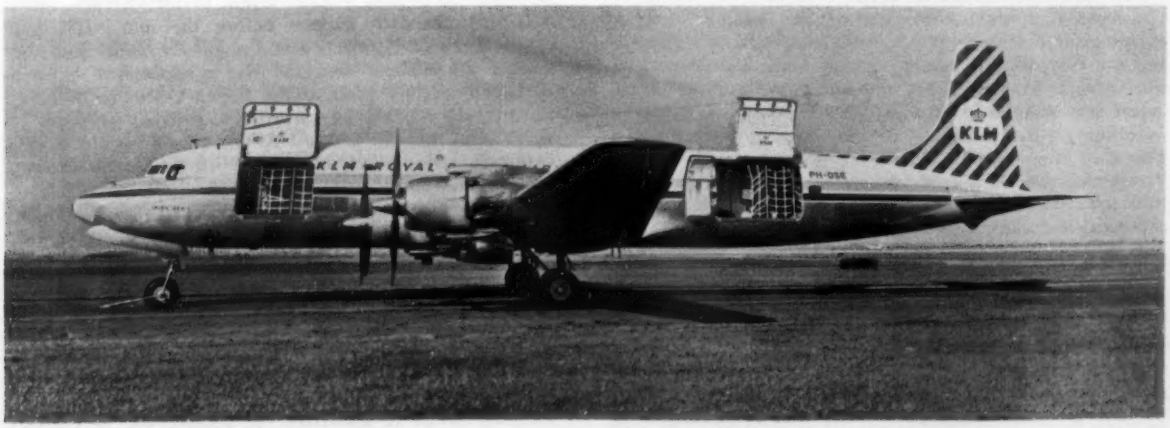
THE FUTURE DEVELOPMENT of the cargo side of the air transport business has reached a critical stage. Is it to go forward and capture the vast amount of traffic that many people believe it now has the opportunity of doing, or is it to remain the poor relation as compared to the passenger side of operations? It had been hoped that the recent International Air Transport Association meeting in Paris would resolve the problem, but in fact that meeting ended in failure, and the future of air cargo remains as obscure as ever. To show the background to the present situation we must trace briefly the development of air transport over the postwar period. When air transport started business again immediately after the war it was inevitable that passenger traffic should be the first to be catered for. In reaching this conclusion the most important factor was the economics of airline operations. Weight for weight, the passenger shows a far better return to the airline than any but the most valuable piece of cargo. So it was that as the air transport industry developed it was mainly with the needs of the fare-paying passenger in mind that new aircraft were ordered, and new routes were introduced. Business was flourishing. Each year an increase in traffic of about 15 per cent was recorded, and to meet this demand more and more airliners were purchased.

Throughout this period the airlines paid little or no attention to the potentialities of the air cargo market. They had more than sufficient to keep them busy carrying the tens of thousands of passengers who wanted to fly. There were, however, a few companies who believed that money could be made out of flying cargo. In the United States such companies as Slick and American Airlines were operating all-cargo services, while across the North Atlantic Pan American World Airways were providing an all-cargo service. But the shipper had not been educated to the advantages of moving his goods by air, and comparatively few consignments were being offered. In those days the demand for air space was mainly confined to individuals or organisations (such as shipping companies) who urgently wanted to send a piece of equipment abroad, and to meet their needs a chartered aircraft was frequently the best solution. For a time a British independent company—Airwork—tried to operate a cargo service across the Atlantic, but the difficulties it encountered eventually proved insuperable and the service was abandoned. At that time the whole of Europe was, of course, short of dollars, which meant that while westbound (export) loads were reasonable, there was little opportunity to carry cargo in the reverse direction.

It must be admitted that the passenger-carrying airliners had limited cargo space, and were able to carry small consignments, but they were no more than scratching the surface of the market. New airliners were produced in their hundreds; DC-4s, DC-6s, and DC-7s; Constellations and Super Constellations; Stratocruisers—these, and others, were the aircraft which were the backbone of the huge development of air transport. They were all piston-engined machines. In 1952 the original de Havilland Comet showed what the future held when passengers flocked to fly by this new mode of aviation. Then, in 1958, the "second generation" jets entered the scene—the Boeing 707, the Comet 4, the DC-8 and the Caravelle. With the arrival of these airliners, the piston-engined machines suddenly became old-fashioned. People no longer wanted to fly by propeller-driven machines. And so the airlines found themselves with hundreds of aeroplanes which were far from worn out, but which were incapable of being operated in the role for which they had been designed. At the same time there was evidence that the curve of passenger carryings, which had been rising at a rate of 15 per cent per annum without any deviation since the war, was beginning to level out. That is the background to, and the reason for, the current airline interest in air cargo: the need to use aircraft which would otherwise remain idle, and the need to keep revenues increasing at a time when the main source of those revenues shows signs of diminishing.

The I.A.T.A. Meeting

It was against this background that the airline members of I.A.T.A. met in Paris towards the end of January to discuss "new approaches to cargo rating to encourage greater bulk traffic." But the meeting ended in failure, and no agreement was reached. While the majority of airlines were agreed on the necessity for lower rates to



One of the Sabena conversions, now a DC-7F, showing the cargo doors

Inside the Sabena freighter conversion

fill the greatly increasing capacities of their fleets, they had strong differences of opinion as to the method to be used. The major American airlines wanted to do away with all the special commodity tariffs, which at present yield about two-thirds of cargo traffic on the North Atlantic. Pan-American World Airways, Trans-World Airlines and Seaboard & Western (the latter being the only American all-cargo airline operating across the North Atlantic) wanted to scrap the commodity system and introduce in its place a reduced overall rate with higher "break" points to stimulate bulk traffic. At the moment there are two break points: consignments weighing up to 45 kg cost about 20s to send from London to New York; thereafter the price comes down to about 15s per kg. The main American proposal was to cut the 20s rate to 13s, and the 15s rate to 8s, and also to introduce a new break point at 7,500 kg where the rate would come down to 5s.

Though details have not been released of B.O.A.C.'s proposals to the conference, it is believed they suggested a major break point of 1,000 kg, with consignments in excess of this figure being carried at about the rate suggested by the American companies for the over-7,500 kg loads. At the same time it is rumoured that the corporation wanted to retain at about the present level the rates for the smaller consignments.

Cargo "War" Likely

Now, unless agreement is reached by April 9 (an unlikely happening) a North Atlantic cargo "war" is likely to develop, for on that date the present cargo rate agreements expire. Already B.O.A.C. have spoken of "consulting the Government" about cutting rates; Pan American and T.W.A. have said they intend to "go it alone" from April 10, while Seaboard & Western, who proposed a variation on the general American proposals, have stated that they intend to introduce their proposed rates on July 1. On that date Seaboard are planning to bring into service their fleet of five Canadian-built CL-44 Rolls-Royce Tyne-engined cargo aircraft. These aircraft have been specially designed for long-range cargo operations. They have a payload of 65,000 lb (30,000 kg), and the whole of their tail assembly swings clear, so providing an unobstructed opening to the cargo hold. One of Seaboard & Western's main proposals was a rate of 4s per kilo for a full CL-44 load of 30,000 kg.

Anticipating a reduction in cargo rates, a number of airlines spent considerable sums of money last year having some of their piston-engined machines converted for cargo work. B.O.A.C. had two of the DC-7Cs sent back to the United States for this work, and in December the corporation started, for the first time, to operate a North Atlantic cargo service at a frequency of two flights per week in each direction. Pan American, K.L.M. and others have had some of their DC-7Cs converted, while T.W.A. and Lufthansa had similar conversion work carried out to their Super Constellations.

Though there has been a large increase in the number of cargo services being operated across the Atlantic—Pan American and Seaboard & Western have both been offering a daily flight for some time past—it is generally agreed that the potential market has barely been touched—given the right (the lowest) rate structure. Undoubtedly the rates of 4/5 shillings per kilogram which were suggested at Paris would open up a vast new field of possible users of air freight among the many people who have hitherto made use of sea transport.

Importance of the North Atlantic

It may be wondered why so much importance is attached to the North Atlantic route when it can reasonably be argued that there are considerable quantities of cargo in many places other than Europe and North America. However, it should be borne in mind that it is the North Atlantic route that has been the one on which all major developments in postwar air transport have first been introduced. Just 10 years ago the decision was taken by I.A.T.A. to introduce a tourist-class fare level across the Atlantic; previously there had just been one fare level—first-class. That decision a decade ago was the start of a really big increase in air travel. The experiment proved itself on the Atlantic, and subsequently tourist-class travel was expanded to all major routes throughout the world. Later it was on the North Atlantic that economy-class travel was first tried. Again it proved an immediate success, and is now being gradually extended to other main trunk routes.

It is my firm belief that had the Paris meeting proved a success it would have taken its place in the annals of air transport history alongside that meeting of 10 years ago when the decision was taken to bring into being tourist-class travel. Whether or not a "cargo war" develops it would seem inevitable that the next few years will see a vast increase in cargo operations. Some American operators are already talking of the possibility of buying jet-engined machines just for cargo work, and it is known that the United States Air Force is about to place a contract for a jet-powered strategic freighter. Such a contract will undoubtedly allow the manufacturer to consider seriously developing a civil version of the aircraft.

Is this likely to happen before the mid-1960's with cargo aircraft? At the Farnborough Air Show last September the Vickers company had a model on its stand of an all-cargo version of the Super VC10. It would be an aircraft capable of carrying a payload of close on 100,000 lb, and, in contrast to the CL-44, would have a complete nose section that would swing clear, so allowing entry to the cargo hold.

Alongside such projects for new aircraft there are others for special cargo-handling buildings at airports. It will be no use, for instance, flying an important consignment across the Atlantic in six hours, and then taking a further six hours to unload the aircraft. Means must be found of loading and unloading quickly. Lightweight containers supplied to, and packed by, the shipper are one possibility; a greatly increased use of pallets another. Such developments as these, allied to a fast collection and delivery service to and from the airport, will be essential if air cargo is to develop in a big way.

Air Charter Market

PROPOSED CUTS IN AIR CARGO RATES

By a Special Correspondent

AIR BROKERS can look back on February with a certain degree of satisfaction, the month having provided steadier business than for some time past. If there was any cloud on the otherwise blue horizon, it was that which drifted across from Paris, when the airlines of the International Air Transport Association met to debate and fix future cargo rates for international scheduled air services. Paradoxically, it was developments in the field where the I.A.T.A. Paris conference failed to make progress that proved most disturbing for the air charter market.

The Paris conference agreed to continue without change the existing cargo rate pattern in Europe, the Middle East and Africa, but failed to arrive at a mutual conclusion on what should happen on the North Atlantic routes after the present agreement expires on April 9. Practically all the airlines attending the conference felt that rates should be lowered, but some wanted to take measures too drastic to be acceptable to the majority of the airlines. This failure to reach agreement is just another symptom of the anxiety neurosis that is currently gripping the large national airlines in their endeavours to fill the rapidly expanding capacity of their jet-age fleets. To overcome the obstacles of existing fare structures I.A.T.A. airlines have already introduced new lower fare categories across the Atlantic, such as 'economy' and inclusive tour rates; now they are attacking the cargo rates structure. All this, of course, makes it increasingly difficult for independent air charter operators to compete.

New Rating System

Gilbert Lee, commercial director of the British Overseas Airways Corporation, is reported as saying that the corporation proposes a lower overall cargo rate for the North Atlantic than that recommended by any of the other airlines. Pan American World Airways' traffic and sales vice-president, Walter Lipscombe, considers the existing commodity rate system outmoded, and has outlined a "weight break" system (the heavier the shipment, the lower the rate) that would in some cases bring rates to as much as 63 per cent below the present scale. Both Pan American and Trans World Airlines have threatened to "go it alone" if agreement is not reached before April 10, and BOAC has also hinted that it might follow suit if it gets Government permission. If this should happen, there are all the ingredients for a first-class rate war, with cargo being diverted from charter flights to scheduled services.

Also in Paris an I.A.T.A. group was formed which will be meeting in about two months time to make an "interim and intensive study of the European rating structure, with a view to its simplification and introduction of new promotional features for European cargo tariffs." This looks like developing into a further bite at the air charter market.

Fortunately in February London air brokers were enjoying the comparatively active times mentioned earlier, so they were unable to dwell on the consequences of the Paris conference. Although business was good on the air charter market throughout February, the best period came at the beginning of the month. Towards the end of January conditions were sluggish on the market, but as the month turned the outlook brightened considerably. The quickening in activity was not restricted, most sections of the market participating in, and enjoying, the improved conditions. Lambert Brothers Ltd reported that the number of fixtures concluded was well above average.

The ships' crew section contributed considerably to the buoyancy of the market, there being strong surge in inquiries. Inquiries were particularly prominent on the Far East route, where a considerable amount of negotiation was undertaken and a reasonable number of fixtures concluded. The heightened activity continued for the first ten or so days of the month, throughout which time the ships' crew section was the dominating feature of the market, although to a lesser extent in the last few days. About the seventh of the month the demand for westbound movement from the Far East during the second half of February caused rates to harden a little, and brokers were visualising a return to the position where westbound rates were sufficiently high to encourage operators to send their aircraft out East in ballast in order to capture westbound traffic.

Towards the middle of the month the tempo of activity slowed a little. Inquiries were still flowing on to the market in reasonable numbers, but much of the inquiry was for forward movement. Charterers, however, were reluctant to commit themselves to firm fixtures at that early stage, and as a result the fixture to inquiry ratio was lower than earlier in February. Emphasis in the market was again on ships' crew traffic, and on the Far East route rates hardened substantially for end-February movement due to the shortage of aircraft.

Applications for Licences

There was a further livening in activity during the last week of the month, and at times brokers were being kept extremely busy. Contrasting with the usual pattern of the market, the ships' crew section was overshadowed by activities in other departments. A great deal of energy during this period was being devoted to trying to meet charterers' requirements for the 1961-62 winter sports season. As applications for licences to operate such flights had to be made by March 17 it is easy to appreciate the spurt in inquiries on the air charter market. In the ships' crew section there was an easing off in both inquiries and fixtures, the decline in inquiries for movement during the first half of March being particularly noticeable.

Two more DC6B aircraft will be at the disposal of the London air charter market this summer. They are those of Societa Aerea Mediterranea (S.A.M.), a non-I.A.T.A. air charter associate of Alitalia, the Italian national airline. This initial fleet of two 80-seater DC6Bs will be available to the market from May 20, the Baltic representatives being M. K. Kendall Ltd. Alitalia are supporting this company in order to be able to offer a specialised service to the general charter market. Already about 350 return flights have been arranged for inclusive tour traffic between the United Kingdom and Italy in the summer.

A most unusual charter flight took place on February 15, when 44 members of the Swiss Astronomical Society took a Swissair Metropolitan from Zurich to the Pisa region of Italy. During the flight astronomers watched the total eclipse of the sun and took photographs of the phenomenon. By using the aircraft the astronomers were able to reach altitudes favourable for observation.

Among recent air charter fixtures reported by Lambert Brothers are: Boeing 707, passengers, London/New York and return; Argonaut, passengers, London/Casablanca/ Naples/ Paris/ Rome/ Paris/ Rome/Casablanca/ London; Boeing 707, ship's crew, London/Calcutta; Super Constellation, ship's crew, Taipei/Seattle.

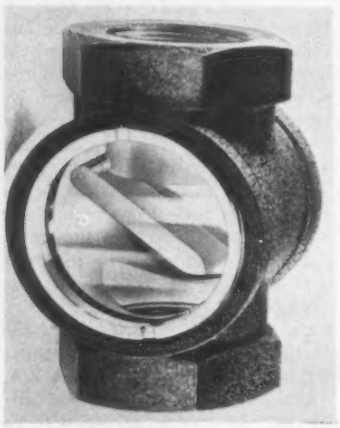
RECENT TECHNICAL DEVELOPMENTS

New Pipe-Clamping System

Pressure clamps may be made to any diameter of piping by an improved system, known as Tespa, being marketed by G. E. Simm (Engineering) Ltd, Tespa Sales Division, 27 Bromgrove Road, Sheffield 10. Working in close cooperation with stainless steel manufacturers in Sheffield, Simm claim that the stainless steel material they are using in Tespa is vastly superior to any being used in similar clamping mechanisms. Also, because of its local manufacture, Simm are able to offer Tespa at 30 per cent less cost than similar clamping systems that they have marketed previously. The system has many applications in the coal, gas, chemical, petroleum, shipping and hydraulic industries and can be used wherever pipeline work is installed handling air, steam, water or other liquids. The Tespa clamping system consists of a stainless steel band and buckles, and a special hand tool for applying the clamps. The band, which is supplied in widths of ⅜in, ½in, ⅝in and ¾in can be wrapped round any object without the need to disconnect it. The complete set of equipment for clamping is portable and can easily be taken anywhere by one man.

New Flow Indicator

A new flow indicator, which will operate in either a vertical or horizontal position, is being manufactured and marketed by Suba Hydraulics Ltd, Limes Place, Limes Road, West Croydon, Surrey. Suitable for use on pressure lines where flow is horizontal or vertical, the Model 112 vane-type flow indicator shows the approximate proportion of full flow. If desired a fractional scale can be incorporated at slight extra cost. Observation of the clarity and condition of liquid is possible, and the indicator operates equally well on upward and downward flow. Six sizes are obtainable to fit pipes from ¾in to 2½in dia, the overall dimensions ranging from 4½in long by $1^{13}/_{16}$in to 6in long by 3in. The unit is constructed of bronze and pressure tested to 100 lb/sq in. Finish is black wrinkle with chrome rings. The inlet and outlet are threaded B.S.P. Variations in construction to suit individual requirements can be supplied on request.



The Suba Hydraulics flow indicator, showing the vane that indicates the proportion of full flow

Plastic Hose Fittings

For some time polythene tube and PVC and rubber hose have been used in ships and yachts for the distribution of fresh water, but in the past connections have been made by pipe clips and fittings which often corrode, jam and in many cases are impossible to reach with a spanner or screwdriver. LaBrecque Engineering Co Ltd, Gaywood House, Gayfere Street, Westminster, London SW1, are wholesale suppliers of the "Tubelock" and "Hozelock" range of plastic fittings which will overcome these difficulties because they never corrode and are tightened by hand.

The fittings are based on a simple principle; the internal diameter of the pipe is maintained by inserting a bush which is an integral part of the body of the fitting. A circumferential stainless steel spring is slipped over the pipe and is compressed by the action of tightening a nut. There is an internal taper on the cap of the nut which compresses the spring as it is tightened until at the final stage the spring acts as a circumferential rod biting into the outer diameter of the pipe. By this device a considerable force is exerted on the wall of the pipe and joints capable of withstanding a pressure of 250 lb/sq in can be obtained by hand tightening. The joint can also be broken and remade any number of times without impairing the sealing properties of the fitting.

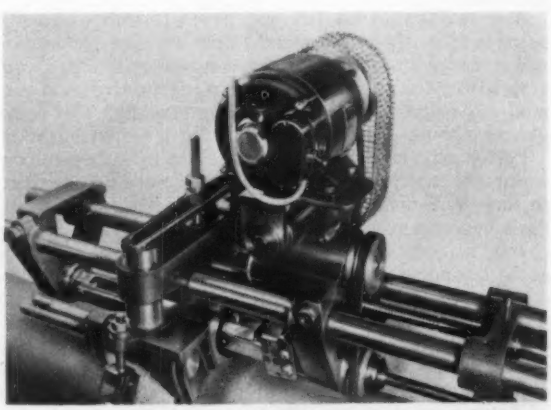
The "Tubelock" range of fittings is suitable for use with ½in and ¾in normal gauge low density polyethylene tubing and for most ½in and ¾in PVC and rubber hose. The "Hozelock" range is slightly lighter in construction and is suitable for use with all makes of ½in and ¾in PVC hose.

New Lifeboat Pump

A small lifeboat pump, model F218, has been introduced by Lee, Howl & Co Ltd, Tipton, Staffs. It is ideal for yachts and launches, weighs 5 lb and has an output of 7 gpm at 60 double strokes per minute. The pump has an 8ft suction lift and 12ft total head, and the branches are suitable for 1¼in dia hose. It is approved by the Ministry of Transport. The body, covers and handle are in silicon aluminium which is resistant to corrosion. The cover is lined with Neoprene on the inside and incorporates a bayonet type joint for holding it in position. All nuts, bolts, screws and pins are of stainless steel or aluminium alloy to avoid electrolytic action, which may occur particularly in aluminium boats. The diaphragm, valves and rubber joints are Neoprene and will not deteriorate through heat, cold, dampness or sea water. The working handle and handle of the cover are coated with black polythene.

Portable Boring Machine

A portable boring machine known as the Model F.M. is being marketed by the Buma Engineering Co Ltd, Robson Street, Newcastle upon Tyne 6. This new coupling fine-boring machine has been specifically designed for finish-boring holes in coupling flanges, and is ideally suited to applications where a restricted space of only 22in is available, even less space being required for narrower flanges. Tapered diameters of the coupling shaft do not affect the mounting of the machine since it is clamped to the periphery of the flange itself. The tungsten carbide cutter is set to size by a special micrometer which is supplied with the machine, and cutter sharpening is carried out on a built-in metal bonded diamond wheel, using jigs to ensure correct cutting angles. Stepped "Vee" pulleys give a range of three speeds, and automatic feed is provided. The standard Model F.M. machine is designed to bore parallel holes only and is supplied with a plain cylindrical boring bar. A taper-boring unit is available as an optional extra and can be installed in the machine without any modification.

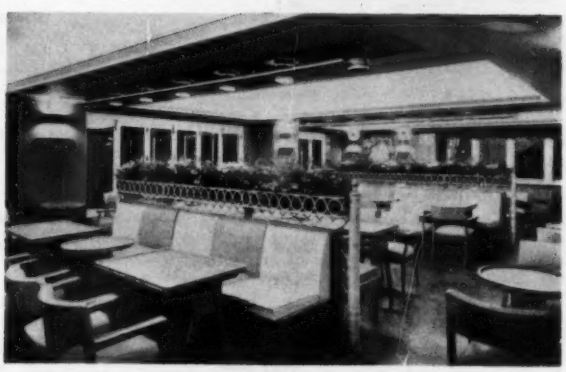


The Buma Engineering Company's Model F.M. boring machine

PUBLIC ROOMS IN THE P & O — ORIENT LINERS "CATHAY" and "CHITRAL"

The main lounge—"Cathay"

The restaurant—"Cathay"



Part of the verandah cafe—"Cathay"

Smoking room—"Chitral"

Smoking room and bar—"Cathay"

Library and writing room—"Cathay"

Air-conditioned cinema—"Cathay"

NEW CONTRACTS

Shipowners	No. of Ships	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B × D.(dft.)	Delivery	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Admiralty	2	Fleet tankers	—	—	1963	—	Geared turbine	—	Shipbuilders	Hawthorn Leslie
Overseas Yards										
British Columbia Govt.	1	Ferry	—	—	1962	—	—	—	—	Victoria Machinery Depot
Papachristidis Co	1	Bulk carrier	—	730 × 75	—	—	Geared turbine	—	—	Canadian Vickers
Cia. Nacional de Nav. Costeira, Brazil	2	Cargo	8,250	—	—	—	7-cyl Sulzer diesel	—	Elcano	Astilleros de Cadiz

LAUNCHES

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Mar. 2	Clan Line of Steamers	*Clan Forbes*	Cargo	10,230 (9,000)	460 × 62.25 × 37.5(26.58)	16	6-cyl Sulzer diesel	7,100	Wallsend Slipway	Swan Hunter, Wallsend
Mar. 6	H. Kuhnles Rederi A/S	*Nordholm*	Cargo	10,800	460 × 64.5 × 39.42(26.58)	14.5	4-cyl H & W/B & W diesel	5,750	J. G. Kincaid	Wm. Hamilton & Co
Mar. 7	Wilsonwood Fishing Co, Aberdeen	*Wilsonwood* (285)	Trawler	(150)	96(108.75) × 22 × 10.5	—	5-cyl diesels	500	—	Brooke Marine
Overseas Yards										
Feb. —	Ipswich Steamship Co	*Bluebird* (533)	Bulk carrier	17,300	486.5 × 69.2 × 24(30.5)	16	B & W diesel	7,130	Shipbuilders	Akers M.V.
Feb. —	Zim Israel Nav. Co	*Timna* (769)	Bulk carrier	23,000	519.95 × 74 × 48.25(34.5)	15	Diesel	9,000	M.A.N.	Deutsche Werft
Feb. —	U.S.S.R.	*Merzen-Les*	Cargo	10,000 (displ.)	—	—	Free piston gas turbine	—	S.I.G.M.A.	Baltic S.B. & E. Works, Leningrad
Feb. 13	Worms & Cie.	*Yainville* (151)	Cargo	3,700 (2,400)	291.5(317.33) × 44.33 × 26.25(20)	13.3	Tw.-scr. diesel	2,400	Duvant	At. et Ch. de la Seine Maritime
Feb. 16	A. O. Andersen Shipping Co A/S	*Berean* (21)	Tanker	12,500 (8,500)	—	—	Diesel	7,500	Gotaverken	Haugesund M.V.
Feb. 19	Zim Israel Nav. Co	*Moledet*	Pass.	(7,000)	373 × 59.5 × 35(19.67)	17	Two Pielstick diesels	6,370	S.E.M.T.	At. et Ch. de Bretagne
Feb. 20	C. H. Sorensen & Sonner	*Ariel* (200)	Bulk carrier	16,900 (11,000)	554.33 × 70 × 41.25(29.1)	15	G.V. diesel	6,550	Shipbuilders	Uddevallavarvet
Feb. 21	Olsen & Ugelstad	*Filefjell* (1107)	Cargo	18,700 (16,500)	534.9 × 73.5 × (30)	14.75	M.A.N. diesel	6,300	Shipbuilders	Kieler Howaldtswerke
Feb. 22	Cargo Ships El-Yam, Haifa	*Har Ramon* (759)	Refrig. cargo	5,500	—	19	Diesel	—	M.A.N.	Deutsche Werft

TRIAL TRIPS

Date	Shipowners	Ship's Name and/or Yard No.	Type	Tons d.w. (gross)	Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Yards in Great Britain and Northern Ireland										
Jan. 1	Fleetwood Near Water Trawlers	*Parkroyd* (2538)	Trawler	(245)	112.5(127) × 25.67 × (9.58)	—	6 cyl diesel	675	Mirrlees, Bickerton & Day	Vosper
Jan. 26	British Transport Commission	*Ely* (432)	Grab hopper dredger	(1,430)	—	—	Tw.-scr. diesel	—	Ruston & Hornsby	Chas. Hill & Sons
Jan. 27	Walker Steam Trawl Fishing Co	*Star of Devon*	Trawler	(250)	—	—	4-cyl diesel	—	British Polar	P. K. Harris & Sons
Feb. —	Moss Hutchison Line	*Busiris* (698)	Tanker	37,200 (24,500)	660 × 90 × 48(36.33)	—	Geared turbine	16,000	Parsons Marine	Jos. L. Thompson & Sons
Feb. 20	Britama Tankers	*Gulf Briton* (506)	Tanker	40,100 (27,700)	680(714.67) × 95.25 × 48.5(36.42)	17 (T)	Brown Boveri geared turbine	19,000	Richardsons Westgarth	Furness S.B. Co
Overseas Yards										
Jan. 4	Flower Line, Bermuda	*La Hortensia* (1344)	Cargo	13,700 (9,500)	437.5(461.58) × 61 × 40.5(27)	14.25	7-cyl G.V. diesel	5,800	Shipbuilders	Forges et Ch. de la Mediterranee
Jan. 28	A. P. Moller	*Dragor Maersk* (156)	Cargo	5,460 (2,600)	(435.25) × 58.1 × (19.9)	—	9-cyl diesel	—	Burmeister & Wain	Odense S.B. Co
Feb. —	Zim Israel Nav. Co	*En-Gedi* (768)	Bulk carrier	23,000 (15,000)	519.95(550.2) × 74 × 48.25(34.5)	15	8-cyl diesel	9,000	M.A.N.	Deutsche Werft
Feb. 16	Hjal. Bjorge, Oslo	*Trollheim* (147)	Bulk carrier	28,000 (18,300)	610(651.58) × 80 × 44.5(33.5)	16	Geared turbine	12,500	Parsons	Kaldnes M.V.

THE WHOLE of the latest edition of the International Paints news bulletin *The Propeller*, is devoted to one article "The Frictional Resistance of Ships' Hulls." No attempt has been made to involve the reader in the advanced mathematics of ship resistance: the article reviews the subject in simple terms which can be readily understood by the layman. The first part draws the distinction between the two components of resistance, residual and frictional, and an explanation is given of the nature of the flow of water in the boundary layer. A close study is then made of fouling, corrosion and other forms of roughness which lead to increased frictional resistance, but can be controlled by efficient bottom compositions.

A PARTICULARLY interesting film has been made available by Houseman & Thompson Ltd, specialists in organic water treatment. The film called "The Houseman Service" describes the general activities of the firm and makes special features of water treatment application for shipping, railways, road transport, aircraft, steel works, collieries, hospitals and bakeries. The Houseman service provides degreasing, descaling, and the chemical removal of most types of deposit and is available throughout the United Kingdom and in most ports overseas.

A NEW documentary film about fishing nets and lines called "A Good Catch" has been produced by British Resin Products Ltd, a company in the Distillers Plastics Group. The film describes a new development—the use of high density polyethylene as a material for fishing nets and lines. The film explains the advantages of this material over the more conventional manilla and cotton twines. It goes on to show the various manufacturing processes. The process of weaving the nets is shown in some detail. The film then moves to Aalesund in Norway, where trawlermen are putting them to use in the fjords off the coast of Norway for trawling and shrimp fishing. Polyethylene lines for long line fishing are also illustrated.

THE latest copy of *Transmission Times*, issued quarterly by Self-Changing Gears Ltd, Lythalls Lane, Coventry, contains a number of articles dealing with the various applications of the company's equipment, which includes marine gearboxes.

MARITIME NEWS IN BRIEF

Mr J. E. Green has resigned as deputy chairman and treasurer of Lloyd's Register of Shipping. He has been succeeded by Mr A. C. Grover, immediate past chairman of Lloyd's. Mr Green was first elected to the General Committee by the Corporation of Lloyd's in December 1945. His first term as deputy-chairman and treasurer extended from 1954 to 1956 and his present term began in July 1959. Mr Grover was first elected to the General Committee in 1954. He became deputy chairman and treasurer in 1956, but resigned at the end of 1957 on his appointment as deputy chairman of Lloyd's. As chairman of Lloyd's in 1959 and 1960 he served *ex officio* on the General Committee of Lloyd's Register.

Mr Yosomatsu Matsubara, president of the Hitachi Shipbuilding & Engineering Co Ltd, has accepted nomination as the next president of the Shipbuilders Association of Japan. He will succeed Mr Toshiki Sakurai, president of Mitsubishi Nippon Heavy Industries Ltd.

Mr Erik Häggström, managing director of Eriksbergs Mek. Verkstads A/B, Gothenburg, is to retire on July 1. Mr Sven Häggqvist has been appointed as his successor. Mr Häggström will remain a member of the board.

Mr Börje Strender has been appointed a director and head of the production/technical department of Götaverken A/B, Gothenburg.

Major-General Sir Farndale Phillips, chairman of the British Trawlers' Federation, has died. He was 55. Sir Farndale had been president of the Federation since 1957, when he retired as chief of amphibious warfare.

Mr S. A. Stanton, shipping director of Cory Brothers & Co Ltd since 1952, has died.

Mr Wallace Clarke has been promoted shipping and traffic manager of the Perkins Group and has been succeeded as assistant company secretary by Mr H. J. Wynne.

Mr K. R. Monroe has been elected a member of the Mersey Docks & Harbour Board to fill the vacancy caused by the resignation of Mr H. Owen.

MR GEORGE HUTCHINSON (left) has been appointed a director of Hunting & Son Ltd. He is general manager of Hunting & Son Ltd and a director of Northern Petroleum Tank Steamship Co Ltd, Hunting (Eden) Tankers Ltd, and other companies. MR K. McKENZIE (right), marine superintendent of Hunting & Son Ltd, has been appointed a director of Halmatic Ltd. He is also a director of Northern Petroleum Tank Steamship Co Ltd. Mr J. L. Smith has been appointed a director of Hunting Engineering Ltd, Henderson Safety Tank Co Ltd, Halmatic Ltd and Hunting Mhoglas Ltd. Mr R. E. Treacher has been appointed group financial director and a director of Hunting Surveys Ltd. Mr J. H. Hay, secretary of E. A. Gibson & Co Ltd, is now a director. Mr J. O. Dawson has been appointed assistant general manager of Hunting & Son Ltd and a director of Hunting Steamship Co Ltd, while Mr E. H. Baker, a director of Field Aircraft Services Ltd, has joined the board of Hunting Aviation Management Ltd

CAPTAIN G. RANDALL has been appointed master of the P & O-Orient Lines passenger vessel "Chitral". He started his career at sea as a "Worcester" cadet and later served an apprenticeship with the P & O Line. In 1925 he joined "Karmala" as fourth officer. In 1943 he was appointed chief officer of "Empire Raja". He became staff commander of "Chusan" in 1951 and was appointed to his first command, the "Cannanore", in 1953. He has since commanded various ships, his last being "Carthage"

Mr T. K. Singer has been appointed general sales manager of James Booth Aluminium Ltd. Mr F. J. Mills continues as sales manager.

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The South American Saint Line Ltd, of Cardiff, have reached a joint working agreement with R. Nerdrum Ltd, London, under which the latter have taken over the management of the company. The South American Saint Line, which has been in existence since 1926, has a fleet consisting of six vessels all over 7,000 grt. In addition the company has another vessel on order with Joseph L. Thompson Ltd, Sunderland. Nerdrum Shipping Ltd own two vessels. Both of these ships are of 11,416 grt and both were built in Germany in 1956.

Mr C. M. Lemos, president of the Triton Shipping Company, has received the Gold Cross of the Order of King George I for his services in promoting maritime training and education in Greece.

Mr J. J. Kiernan has been appointed manager of the Protection and Indemnity Department of Furness Withy & Co Ltd.

Mr F. M. Evans, an assistant general manager of the Mersey Docks & Harbour Board, has retired after 49 years' service.

Watts Watts & Co Ltd and Federal Commerce & Navigation Co Ltd have entered into partnership in Canada and established Watts Watts Shipping Agencies Ltd with offices at 410 St Nicholas Street, Montreal. The liner agencies presently represented by Federal Commerce & Navigation Co Ltd will be transferred to Watts Watts Shipping Agencies Ltd along with the complete staff and facilities of Fednav's traffic department. Watts Watts Shipping Agencies Ltd will also assume responsibility for Federal's offices in Toronto, Quebec, Saint John, N.B., and Halifax, which will thereafter be known as Watts Watts Shipping Agencies Ltd.

The American Government is now committed to guarantee the mortgages on 54 ships and three barges. The mortgages total $441,000,000. In addition the Government has applications for 111 other vessels—38 deep draught and 73 shallow—whose total mortgage would reach $310,000,000.

British United Airways, who recently inaugurated the first-ever direct air service between United Kingdom and Las Palmas, have made tickets interchangeable with those of the Union-Castle Line so that a holiday tour one way by sea and one way by air is possible. At first this facility could only be offered to passengers taking return tickets from the United Kingdom, but approval has now been received for an extension of this facility by which it is possible for passengers from South Africa to disembark at Las Palmas and complete their journey to Britain by British United Airways, or alternatively passengers from Britain may fly to Las Palmas and continue their journey to South Africa by sea.

Mirrlees, Bickerton & Day Ltd have opened a new marine service depot at 6 Bell Street, Quay Side, North Shields, Northumberland (telephone: North Shields 538).

Traffic in the port of Stockholm increased by 13 per cent and reached a new peak of 39,930 vessels aggregating 11,570,000 nrt in 1960. Domestic shipping was up by 2 per cent, whereas foreign shipping increased by 415 units totalling 600,000 tons to 8,820 units aggregating 8,450,000 nrt during the year. The turnover of goods in the port of Stockholm increased by 20 per cent to 5,970,000 tons, imported goods accounting for 3,300,000 tons. Exports over the port increased by some 100,000 tons during the year.

Ultra Electronics Ltd are to supply marine radar simulator equipment for use in the French naval training establishment at Brest. The installation is a particularly comprehensive one, including facilities for simulation of two "own ships". The Ultra equipment will operate with radar display units of French design.

Ridpest Ltd, who specialise in marine pest control, have now merged with the marine division of Disinfestation Ltd.

MR GEORGE JAILLER (left) has been appointed marine director of Rye-Arc Ltd. He was formerly marine general manager and will be responsible for all shiprepairing activities as well as the modernisation of Mills & Knight Ltd, the Thames shiprepairing firm which Rye-Arc purchased last year. Mr M. W. DUNHAM (right) has been appointed sales manager and assistant to the sales director. Mr Dunham has been with Mirrlees, Bickerton & Day Ltd for the last six years, prior to which he held a number of engineering posts overseas and was for a time engaged in the design of water-tube boilers with Foster Wheeler Ltd

Unconfirmed reports state that between four and six conventional submarines may be built by Canadian shipyards for a triple purpose—to provide work for shipyards now at their lowest ebb since 1950, to operate with RCN destroyer escorts in order to provide crews with experience in actual anti-submarine exercises, and to build up a possible hunter-killer submarine fleet.

The British Columbia provincial government has awarded a contract to Victoria Machinery Depot, Victoria, to build to third ferry of the *Sydney* type. A contract for a fourth similar ferry will be awarded shortly. In this way the government will run an hourly service on the Swartz Bay-Tsawwassen run. During the winter, two of these ferries may operate on the Victoria-Seattle route.

The R.F.D. Co Ltd, of Godalming, Surrey, manufacturers of inflatable liferafts for aircraft and shipping, have stated that 114 lives were saved during 1960 through the use of the company's equipment.

Another 4,000-dwt tanker of concrete construction was launched on February 18 at the "Georgi Dimitrov" shipyard, Varna, Bulgaria, 25 days ahead of schedule. The shipyard now has in hand 25 ships of various types and sizes, of which 18 will be launched and nine completed this year.

Fairey Marine Ltd have been appointed distributors of Mercury engines in Berkshire, Hampshire (including the Isle of Wight) and West Sussex by Arthur Bray Ltd, of Poole, Dorset, Mercury's U.K. concessionaires.

The Dutch merchant fleet consisted of 1,501 ships, of 4,676,196 grt on January 1, against 1,533 ships, of 4,534,425 tons, on January 1, 1960. The number of steamers dropped from 183 to 159, and the number of motorships from 1,350 to 1,342.

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The Booth Steamship Co Ltd, Liverpool, has purchased the passenger/cargo liner *Thysville*, 10,946 grt, from the Cie. Maritime Belge, Antwerp. She will run a service with the 7,905-tons liner *Hubert* between Liverpool and the River Amazon. She will be renamed *Anselm* and will start her first voyage on June 16. The purchase price has been reported as £750,000. Certain modifications will be carried out before her entry into British service. The accommodation will be converted to carry 128 first- and 100 tourist-class. The *Thysville* was built in 1950 as the *Baudouinville* by the Soc. Anon. Cockerill-Ougrée, Hoboken.

The Northland Navigation Co Ltd, of Vancouver, are to build four new ships for passenger-cargo service on the Pacific coast. The ships will either be built in Holland or Canada. The ships will have a length of 300ft and will carry 98 passengers at 18 knots. The first ship is to be in service by May 1962.

The Victoria Machinery Depot, at Victoria, has completed two prefabricated restaurants for the provincial government ferries *Sydney* and *Tsawwassen*.

The British Columbia provincial government is investigating the possibilities of using Vickers Hovercraft on the mainland-Vancouver Island service.

Walford Lines Ltd, Leopold Walford Shipping Ltd, and Leopold Walford Shipping & Transport Ltd have moved to 41 St Mary Axe, London EC3. The telephone number remains unchanged.

R. & J. H. Rea Ltd have moved to Cereal House, Mark Lane, London EC3.

The postal district of the British Shipbuilding Research Association, Prince Consort House, 27/29 Albert Embankment, London, has been changed to London SE1.

FIFTY YEARS AGO

From THE SHIPPING WORLD of 8 March 1911

There was launched on Friday from the Greenock yard of the Greenock and Grangemouth Dockyard Co., Ltd., the R.F.A. *Burma*, the first oil tanker ever constructed to the order of the British Admiralty. It is a well-known fact that the Greenock & Grangemouth Dockyard Co., Ltd., specialise in oil tankers, but this vessel has many novelties. She is fitted out with the object of oiling the British fleet at sea, being capable of towing a vessel and supplying her with oil fuel or being towed by the *Dreadnoughts* and supplying them with oil fuel at the same time. Moreover, she is so fitted that she can oil vessels alongside from four different positions situated on the port and starboard side of the vessel. The *Burma* carries 2,500 tons of fuel oil in twelve tanks.

The triple-screw liner *Demosthenes* under construction for the Aberdeen-Australian passenger and cargo service of Messrs. Geo. Thompson & Co., Ltd., London, was launched by Messrs. Harland & Wolff, Ltd., Belfast, on February 28. She is about 11,300 tons register, has a displacement of about 20,000 tons, and is 517 ft. in length overall, and 62 ft. 3 in. in breadth. Her machinery will consist of duplicate sets of triple-expansion engines, and amidship low-presssure turbine. She will be insulated for the carriage of frozen cargo. Two compartments have been specially adapted for chilled beef. Two classes of passengers only will be carried—first and third.

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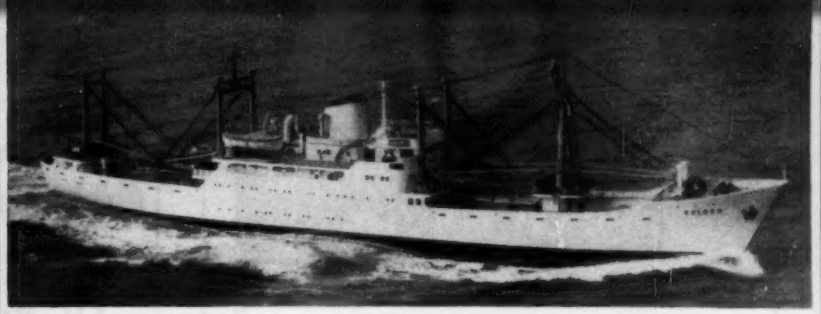
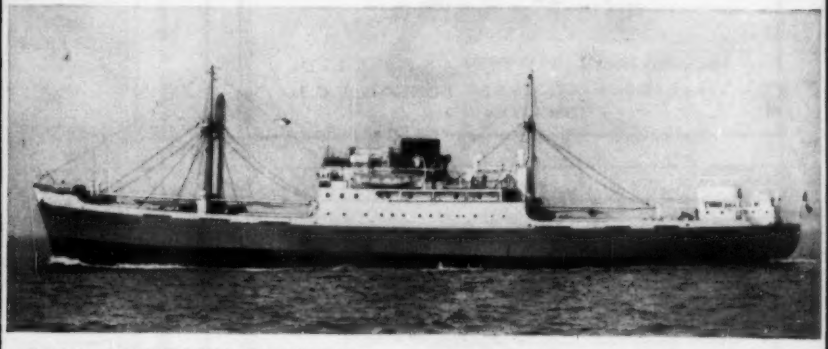
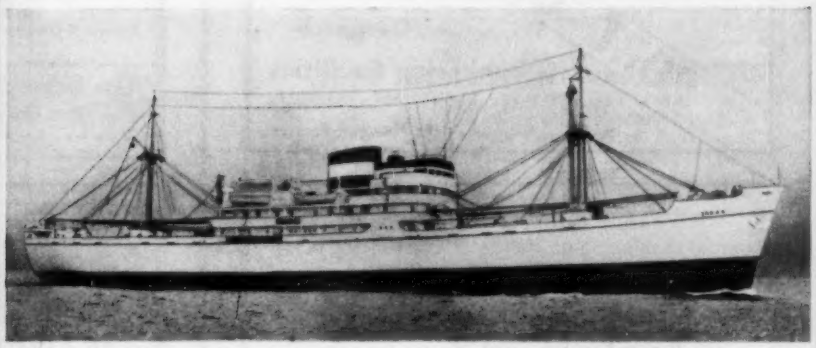


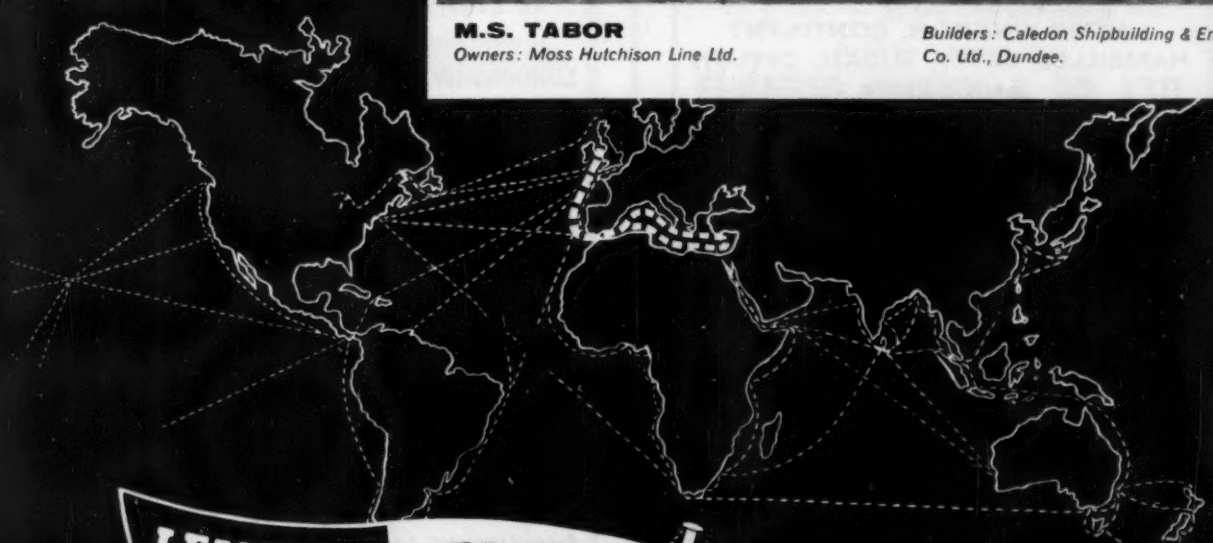
M.S. VALDES
Owners: MacAndrews & Co. Ltd.
Builders: Nobiskrug Werft, Rendoburg.



M.V. CYPRIAN PRINCE
Owners: Prince Line Ltd.
Builders: Burntisland Shipbuilding Co. Ltd., Burntisland.



M.S. TABOR
Owners: Moss Hutchison Line Ltd.
Builders: Caledon Shipbuilding & Eng. Co. Ltd., Dundee.



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